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PLATTE RIVER RESOURCE AREA

Resource Management Plan
Draft Environmental Impact Statement

As the Nation's principal conservation agency, the Department of the Interior has basic responsibility for most of our nationally owned public lands and natural resources. This responsibility includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historic places, and providing for the enjoyment of life through outdoor recreation. The department assesses the nation's energy and mineral resources and works to ensure that their development is in the best interests of all our people.The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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Dear Reader:

This Draft Resource Management Plan/Environmental Impact Statement (RMP/EIS) outlines several alternatives for managing the public land in the Platte River Resource Area. These alternatives are designed to resolve 13 land management issues that were identified during the early stages of the planning process. The environmental consequences of the alternatives have also been analyzed.

Please review the document and direct any written comments you may have to Jim Melton, Area Manager, Platte River Resource Area, 951 Rancho Road, Casper, Wyoming 82601. You have 90 days to submit your comments. The comment period begins the day the notice of availability is published in the *Federal Register*.

Four public hearings have been scheduled to allow individuals to present oral testimony on the draft RMP/EIS. The hearings will be held at the communities, times, dates, and locations listed below.

Community	Time	Date	Location
Wheatland, Wyoming	7 p.m.	April 23, 1984	4-H Hall at Platte County Fairgrounds, off Hillcrest Street
Torrington, Wyoming	7 p.m.	April 24, 1984	Citizens National Bank, Wyoming Room 2000 North Main
Douglas, Wyoming	7 p.m.	April 25, 1984	East Elementary School Gymnasium East Hamilton Street
Casper, Wyoming	7 p.m.	April 26, 1984	City Council Chambers 200 North David

All written and oral comments will be given equal consideration in the preparation of the final RMP/EIS. Through your participation in this effort, we can move forward together toward a common goal of improved public land management in the Platte River Resource Area.

Hillary A. Oden
State Director

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DRAFT
RESOURCE MANAGEMENT PLAN/ ENVIRONMENTAL IMPACT STATEMENT
for the
PLATTE RIVER RESOURCE AREA
CASPER, WYOMING

Prepared By:

U.S. Department of the Interior
Bureau of Land Management
February 1984

Hillary A Oden

WYOMING STATE DIRECTOR

DRAFT
RESOURCE MANAGEMENT PLAN/ ENVIRONMENTAL IMPACT STATEMENT FOR THE PLATTE RIVER RESOURCE AREA
Natrona, Converse, Platte, and Goshen Counties, Wyoming

Lead Agency: Bureau of Land Management, U.S. Department of the Interior

Type of Action: Administrative

Abstract:

This draft resource management plan/environmental impact statement addresses alternatives for managing approximately 1.4 million surface acres and about 4.7 million acres of federal mineral estate administered by the Platte River Resource Area, Bureau of Land Management. The plan focuses primarily on 13 resource management issues relating to protection of cultural resources, extraction of sand and gravel, fire management, forest management, grazing management, land disposition, designation of utility/transportation corridors, withdrawal of certain areas from mineral development, obtaining access to public lands, management of recreational areas, watershed protection, management of wildlife habitat, and special designations for certain areas.

Four alternatives that address each issue are considered: continuation of present management (Alternative 1) and alternatives for low, moderate, and high levels of management (Alternatives 2, 3, and 4).

The agency's preferred management plan represents a mix of the four alternatives, emphasizing a balance between resource uses and resource protection. When this document is produced in final form, it will provide a comprehensive framework for managing and allocating resources on the public land in the Platte River Resource Area during the next ten years, or longer. Further information regarding this document can be obtained from the address below. Comments, which will be accepted until June 11, 1984, should be addressed to

Jim Melton, Area Manager
Platte River Resource Area
Bureau of Land Management
951 Rancho Road
Casper, Wyoming 82601
Telephone (307) 261-5556

This draft RMP/EIS will be available to the EPA and the public on March 14, 1984.

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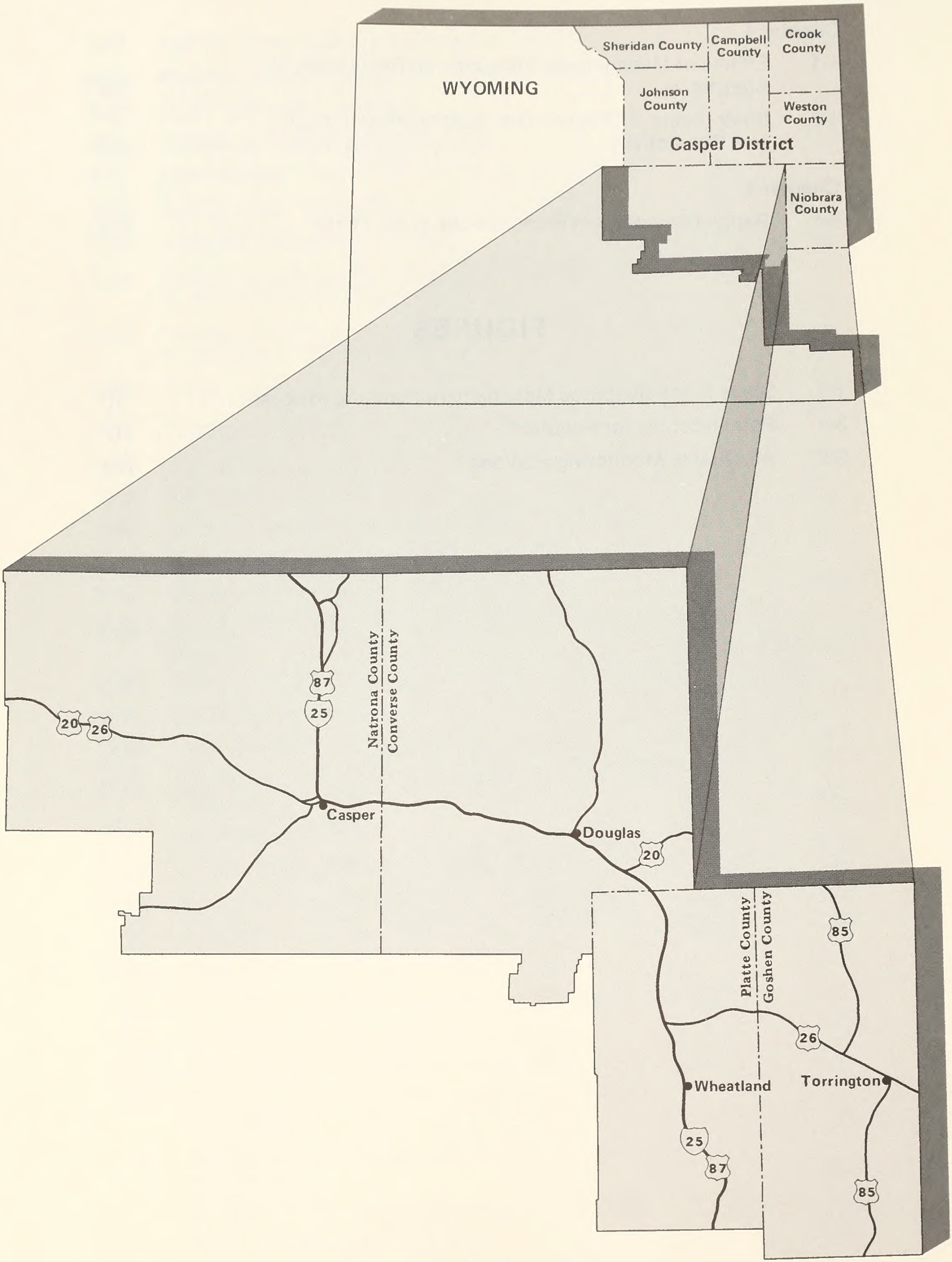


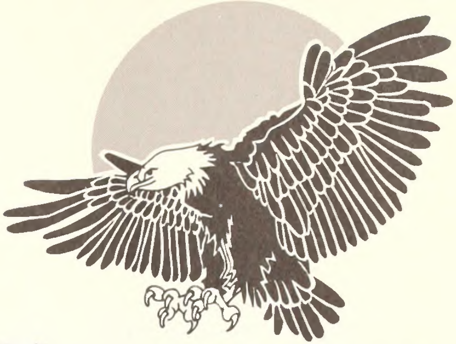
Map 1
Platte River Resource Area

ABBREVIATIONS

[Note: Many of these terms are further defined in the Glossary.]

ACEC	Area of critical environmental concern
AMP	Allotment management plan
APHIS	Animal and Plant Health Inspection Service, U.S. Department of Agriculture
AUM	Animal unit month
BLM	Bureau of Land Management, U.S. Department of the Interior
Btu	British thermal unit
"C" allotments	See appendix E
CFR	Code of Federal Regulations. Numbers refer to title and part; that is, 40 CFR 1500 refers to title 40, part 1500
cfs	Cubic feet per second
C&MU Act	Classification and Multiple Use Act of 1964
CRMP	Cultural resources management plan
db(A)	"A" weighted decibels
dbh	Diameter at breast height
DEPAD	Department of Economic Planning and Development, Wyoming
DEQ	Department of Environmental Quality, Wyoming
EA	Environmental assessment
EEA	Environmental education area
EIS	Environmental impact statement
EPA	U. S. Environmental Protection Agency
FAA	Federal Aviation Administration, U. S. Department of Transportation
FLPMA	Federal Land Policy and Management Act of 1976
FS	Forest Service, U.S. Department of Agriculture
GS	Geological Survey, U. S. Department of the Interior
HMP	Habitat management plan

"I" allotments	See appendix E
KGS	Known geologic structure
"M" allotments	See appendix E
mbf	Thousand board feet
MCF	Thousand cubic feet
MFP	Management framework plan
mg/l	Milligrams per liter
NEPA	National Environmental Policy Act of 1969
NFYP	Normal fire year plan
ORV	Off-road vehicle
PRLA	Preference right lease application
PRRA	Platte River Resource Area
R&PP	Recreation and public purposes
RAMP	Recreation area management plan
RMP	Resource management plan
RMU	Resource management unit
SCS	Soil Conservation Service, U. S. Department of Agriculture
TDS	Total dissolved solids
TSP	Total suspended particulates
TSS	Total suspended solids
USDA	United States Department of Agriculture
USDI	United States Department of the Interior
USFWS	U. S. Fish and Wildlife Service, Department of the Interior
VRM	Visual resource management
WGFD	Wyoming Game and Fish Department



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SUMMARY

INTRODUCTION

This draft resource management plan/environmental impact statement (RMP/EIS) addresses options for the future management of approximately 1.4 million surface acres and 4.7 million acres of federal mineral estate administered by the Platte River Resource Area (PRRA), Bureau of Land Management (BLM).

The PRRA encompasses most of Natrona County, Wyoming, and all of Converse, Goshen, and Platte counties. Public land in the southwestern corner of Natrona County is administered by the BLM's Lander Resource Area, Rawlins District. The location of the PRRA is shown on map 1.

The plan focuses primarily on 13 resource management issues that were generated through a process involving intensive public input and professional judgment of BLM personnel. The procedure by which the issues were established is described in appendix A. The issues relate to protection of cultural resources, extraction of sand and gravel, fire management, forest management, grazing management, land disposition, designation of utility/transportation corridors, withdrawal of certain areas from mineral development, obtaining access to public lands, management of recreational areas, watershed protection, management of wildlife habitat, and special designations for certain areas.

Four alternatives are analyzed in this document. They are detailed in Chapter 2. Discussion of the "long term" refers to a period of ten years or more; "short term" refers to less than ten years.

Maps 4 through 21 of this document are overlays to be used in conjunction with the Surface Ownership map (2) and the Mineral Ownership map (3).

ALTERNATIVE 1: CONTINUATION OF PRESENT MANAGEMENT

Alternative 1, the "no action" alternative, would continue the present management. The cultural program would continue to protect fourteen sites. A cultural inventory would be completed on two trails with potential to be eligible for the National Register of Historic Places or to become national historic sites. Appropriate protection for these sites would be initiated. One area of critical environmental concern (ACEC) would be maintained. The program would remain essentially reactive to land use proposals.

Oil and gas exploration and development would be allowed so long as the effects of development were mitigated and development was consistent with land use planning decisions that affect development. About 27,000 acres would be excluded from leasing within the 4.7 million acres of mineral ownership in the PRRA.

Lands that would be available for further competitive coal leasing consideration would amount to 30,597 acres containing about 555 million tons in northern Converse County. Four groups of preference right lease applications (PRLAs) would be processed. These PRLAs, which are in northern Converse County, encompass about 21,000 acres and contain 807 million tons of coal.

Mineral material would be available throughout the resource area except along the North Platte River. Disposition of locatable minerals would be subject to present and proposed withdrawals.

Full fire suppression would continue throughout the PRRA, as directed in the normal fire year plan. Prescribed burning would be confined to two allotments.

The annual harvest goal for forest products would be 525 thousand board feet (mbf). Emphasis would be on pine beetle eradication in the Little Red Creek area, where 1,000 cords per year would be removed for about five years. In addition, about 25 mbf per year would be removed from the Muddy Mountain area for five years. Thinnings on Muddy Mountain would be initiated at ten-year intervals.

Under Alternative 1, the PRRA would maintain 407 existing grazing leases authorizing 203,704 AUMs of livestock use on 1.4 million acres. Two AMPs would be maintained, and no new AMPs would be developed. Over the long term, brush control would be carried out on 19,975 acres, 95 miles of fence would be constructed, 132 reservoirs would be built, and 24 wells and 43 springs would be developed. In the first ten years 12 miles of fence and 16 reservoirs would be constructed, and 10 springs and 3 wells would be developed.

About 1,050 acres of public land would be reserved for transfer to local entities in the resource area for recreation and public purpose use. Exchanges would be pursued in 33 areas. About 29,000 acres in Converse, Platte, and Goshen counties would be considered for disposal. Acquisition of access into 46 areas would be pursued. Eight corridors would be used for major rights-of-way, and ten areas would be excluded from the placement of rights-of-way. Withdrawals from mineral development would be established on 17 areas.

Three developed recreation areas would be maintained and 12 new recreation sites established. About 1.1 million acres would be subject to off-road vehicle (ORV) designations. Three environmental education areas would be maintained, as would the Red Wall ACEC.

Stream monitoring would be established on 17 sensitive drainages and on 9 streams. Surface occupancy restrictions near water sources would be maintained, and watershed monitoring would be maintained as part of the Salt Creek ACEC plan. Five-month restrictions on surface occupancy would be maintained in eight areas, as would a six-month restriction on Muddy Mountain and an eight-month restriction in the South Big Horns. Seven canyon areas would be protected, and the Bates Hole watershed plan would be implemented. The Casper Sand Dunes would be managed as a fragile area.

Three wildlife habitat management areas would be maintained, and 13 additional habitat plans would be prepared and implemented. Surface development restrictions would be maintained on critical winter range for deer, antelope, and elk. Bald eagle roosting areas and known nesting sites of high interest raptor species would be protected during nesting seasons. One ACEC plan would be completed to direct management attention to critical bald eagle habitat in the Jackson Canyon ACEC.

ALTERNATIVE 2: LOW LEVEL MANAGEMENT

Protection would be concentrated upon ten cultural sites. The Pterodactyl Track ACEC designation would be removed.

Sand and gravel extraction would be allowed adjacent to the North Platte River at the discretion of the area manager. This would permit use of the sand and gravel on about 12,800 acres. There would be no change in management for oil and gas, coal, and locatable minerals.

About 85,000 acres would be established as high priority fire suppression zones. The remainder of the PRRA would retain the current full suppression standard. Prescribed burning would be consistent with resource planning needs.

The allowable timber harvest level would be reduced from 500 mbf to 120 mbf. No intensive management plans would be initiatied, and no cooperative beetle control efforts would be pursued.

Authorized livestock use under two grazing leases would decline from 9,781 animal unit months (AUMs) to 8,761 AUMs. Livestock use on two other allotments would increase from 3,744 AUMs to 3,908 AUMs, and grazing on the remaining 403 allotments would remain static at 190,179 AUMs. There would be a total net reduction of 856 AUMs. During the next five years, we would construct 24.25 miles of fence, 5 reservoirs, and 15 springs. Weed and pest control would not be done on public land. The stock driveways would be used for trailing purposes only.

Land disposal would be considered only if applications or indication of interest occurred. Disposals would include 520 acres for recreation or public purposes; total land available for disposals would amount to about 79,500 acres. Exchanges would be pursued on Muddy Mountain and the North Platte River. No new easements would be acquired. No new withdrawals would be established, and the withdrawals now in effect on the North Platte River and those under the Classification and Multiple Use Act of 1964 (C&MU Act) would be terminated. The location of one corridor would be changed; three corridors would be eliminated; and no areas would be closed to rights-of-way. Five corridors would be designated.

On-site recreation management would be limited to Muddy Mountain and Goldeneye. ORV designations for Natrona County would be maintained, and the remaining public lands would be designated for limited ORV use. The Red Wall would no longer be designated an ACEC.

No action would be taken in fragile watersheds or sensitive drainages to determine erosion problems. The Bates Hole watershed plan would be dropped and the protection decisions from Alternative 1 would be maintained. The "fragile" designation on the Casper Sand Dunes would be continued. The Salt Creek Oil Field would be monitored for compliance with the ACEC plan.

Management of three cooperative wildlife management areas would be the responsibility of the Wyoming Game and Fish Department. We would complete one habitat management plan (HMP) for the Jackson Canyon bald eagle ACEC. Decisions that protect wildlife habitat would be maintained.

ALTERNATIVE 3: MODERATE LEVEL MANAGEMENT

Alternative 3 allows full use of resources and provides for adequate resource protection.

The Fort Laramie segment of the Oregon Trail would be transferred to the National Park Service. The BLM would implement management on segments of the Oregon Trail and the Bozeman Trail. Sites with potential for nomination to the National Register of Historic Places would be given adequate protection. The ACEC designation for the Pterodactyl Track would be eliminated, and 400 acres in that area would be withdrawn from locatable mineral entry. The Salt Creek ACEC would be amended to include protection of historic resources.

Extraction of sand and gravel would not be permitted from terraces on the North Platte River between Alcova and Casper. Sand and gravel would be available for extraction along the rest of the river, from Casper to the Nebraska line. This would make available for use the sand and gravel on 3,440 acres. There would be no change in the management of oil and gas, locatable minerals, and coal.

Approximately 85,000 acres would be designated for priority fire suppression under this alternative. Full suppression would be practiced on 450,700 acres, about 32% of the resource area. The rest of the PRRA would be considered low priority for fire suppression, and a plan would be developed to address limited suppression areas. Vegetation manipulation through the use of fire would be implemented as needed to benefit forests, wildlife, and grazing. A plan for prescribed fire would be developed.

Timber would be harvested on 8,000 acres. The annual allowable cut would be 600 mbf. The post and pole cut in the Muddy Mountain area, including the Muddy Mountain Environmental Education Area (EEA), would be increased to 100 mbf for four years. Intensive silvicultural practices would be initiated on Casper Mountain and Muddy Mountain. Fifteen areas would be evaluated for their commercial timber potential.

Emphasis for grazing management would be to improve forage conditions on 48 grazing allotments. The number of AUMs would be increased from 203,704 to 217,631. There would be no reductions in livestock numbers. Two allotment management plans (AMPs) would be maintained and 11 others established on 562,000 acres. All AMPs would be intensively monitored. Over 50 years, we would construct 95 miles of fence, 132 reservoirs, and 24 wells, develop 43 springs, and initiate brush control on 19,975 acres. Weed and pest control would be carried out. Stock driveways would be more heavily used for supplemental grazing during periods other than trailing periods.

About 1,050 acres would be available to local entities under the Recreation and Public Purposes Act (43 CFR 869). Of this R&PP land, 410 acres could be disposed of after 1987.

Exchanges would be pursued to obtain land in three areas. Land available for other methods of disposal would amount to about 102,700 acres. Of this, 23,200 acres would be disposed of by exchange or for public purposes. Access easements would be acquired for 17 roads covering 38 miles. Protective withdrawals would be established for Jackson Canyon, Muddy Mountain, Table Mountain, and the Pterodactyl Track ACEC. The North Platte River withdrawal would be continued, and corridors would be managed as described for alternative 2, except that restricted areas for rights-of-way would be reduced in Pine Ridge and the South Big Horns.

Intensive management would be practiced on five recreation sites. ORV areas would be actively managed by patrolling. The designation of Red Wall as an ACEC would be eliminated.

Current surface protection decisions would be maintained. The Bates Hole watershed management plan would be developed and implemented. Priorities would be assigned to fragile and sensitive drainages, and measures would be taken to protect and stabilize those areas when practicable. The Casper Sand Dunes would be managed for protection of the watershed. The East Teapot and Smoky Gap oil fields would have priority after the Salt Creek field for cleanup according to the Salt Creek ACEC plan.

Three wildlife areas would be managed cooperatively with the Wyoming Game and Fish Department. Four areas would be managed through implementation of HMPs. Bates Creek would be managed as a trout fishery, and the Bates Creek Reservoir and surrounding area would be managed to maintain or increase populations of waterfowl and sage grouse. The designation of Jackson Canyon as an ACEC would be continued.

ALTERNATIVE 4: HIGH LEVEL MANAGEMENT

Under Alternative 4, 23 significant cultural sites would be afforded full protection. Management would protect all significant segments of the Oregon-Mormon Trail and the Bozeman Trail. Intensive inventories would be initiated in areas that have high and moderate potential for the occurrence of cultural resources. The size of the Pterodactyl Track ACEC at Alcova would be reduced to 400 acres, and the ACEC would be withdrawn from mineral entry.

Sand and gravel extraction would be permitted along the entire length of the North Platte River in the resource area. This would make available for use about 12,800 acres of sand and gravel. All other minerals would be managed as they are now.

Fire suppression zones would be delineated. Limited fire suppression would be practiced on 85% of the resource area and priority suppression on 6% of the resource area. A prescribed fire plan would address the use of fire to benefit grazing, forestry, and wildlife. A prescribed burning permit system would be developed.

Timber harvesting and intensive silvicultural practices would be established on 8,000 acres of productive forestlands and 26,000 acres of nonproductive forestlands. The Casper Mountain and Muddy Mountain areas would be managed to produce an annual cut of 750 mbf through 1990. An annual cut of 500 mbf would be maintained from 1991 through 1995 on 17 areas. We would clearcut lodgepole pine stands in patches of variable sizes not to exceed 20 acres. We would do selective cutting of ponderosa pine. In 15 years, the forest program would revert to an annual cut of 120 mbf.

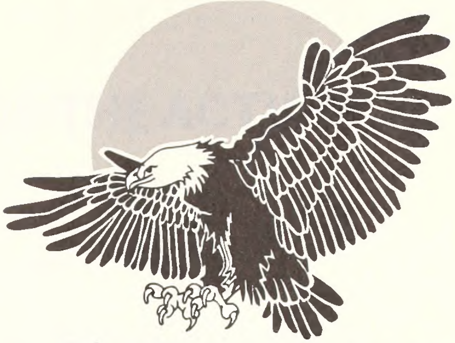
Intensive grazing management would be implemented on 29 allotments. The management would be expected to improve range condition over time, bringing it to the "good to excellent" category. Projects would be developed on 51 allotments. The total number of AUMs would increase from 203,704 to 222,168. Range improvement projects carried out in the next 20 years would include construction of 97 miles of fence, 135 reservoirs, 25 wells, and 30 springs. Brush control would be implemented on 26,850 acres.

About 1,740 acres of public land would be disposed of for recreation and public purposes. Of this, 410 acres could be sold after 1987. Land exchanges would be pursued in eight priority areas. About 102,700 acres would be available for disposal. Corridors and rights-of-way would be managed as described in Alternative 3.

Fifteen areas would be intensively managed for recreation. The Red Wall ACEC would be maintained and withdrawn from mineral locations. The Muddy Mountain EEA would be protected from development.

The Salt Creek and Bates Hole watershed plans would be fully developed. Management plans would be developed and implemented for the fragile areas and sensitive drainages described in appendix B. A soil survey and a water inventory would be completed for fragile and sensitive drainages. The Salt Creek ACEC designation would be maintained. Equal emphasis for cleanup would be placed on all oil fields in the ACEC. The Casper Sand Dunes would be managed as a natural area.

Habitat for wildlife would be intensively managed in 12 areas. The Jackson Canyon ACEC would be withdrawn from mineral locations.



Purpose & Need

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CHAPTER 1: PURPOSE OF AND NEED FOR THE ACTION

INTRODUCTION

This Platte River Resource Area Resource Management Plan/Environmental Impact Statement is a multiple use plan covering the full range of programs and resources under BLM administration. Upon completion, this RMP/EIS will provide a comprehensive framework to guide future management on the public lands and resources in the PRRA.

The process for the development, approval, maintenance, and amendment of RMPs and their associated EISs was initiated under the authority of section 202 (f) of the Federal Land Policy and Management Act of 1976 (FLPMA) and section 202 (c) of the National Environmental Policy Act of 1969 (NEPA). The process is guided by Bureau of Land Management planning regulations in Title 43 of the Code of Federal Regulations, part 1600 (43 CFR 1600), and Council on Environmental Quality Regulations (40 CFR 1500).

Planning Philosophy

Implementation of the BLM planning system is based on national and state guidance, including the interpretations provided by regulations, manuals, and various instruction memorandums issued by the Department of the Interior and the BLM. Court orders and legislative mandates also provide guidance and generally establish the schedules involved in the planning processes.

Preparation of this RMP represents the land use planning phase of the planning system. It is through this process that the management guidance for activity planning and daily operations is provided.

The activity planning phase of the systems is initiated after a final plan is selected. During activity planning, guidance provided by the management plan is applied to specific local resource needs through allotment management plans, habitat management plans, use authorizations, and similar plans.

Planning Strategy

We have addressed a variety of resource management questions, conflicts, and needs in this land use plan, constrained only by the depth of needed data we can acquire and by limitations on personnel and funding.

The BLM planning regulations equate land use planning with problem solving, or issue resolution. An issue may be defined as an opportunity, conflict, or problem regarding the use or management of public lands and resources. Obviously, not all issues are capable of resolution through land use planning; some may instead require changes in policy, budgets, or legislation.

"Issue-driven" planning means that only the aspects of current management that are at issue are examined through the formulation and evaluation of alternatives. Alternatives are not developed for aspects of current management that are thought to be satisfactory.

The life of this plan will be ten years. At the end of that time, it will be reevaluated and amended if necessary, or a new plan will be developed. When the consequences of implementing the alternatives are addressed in this document, the "short term" refers to less than ten years; the "long term" is ten years or more.

PURPOSE AND NEED

The major purpose in preparing this RMP was to provide a comprehensive framework for managing and allocating resources in the PRRA for the next ten years or more. Resource management at this time is guided by three separate management framework plans (MFPs) that are in need of revision because decisions they contain either are covered by standard procedure or have been outdated by changes in laws and policies.

An RMP also is needed to consolidate all decisions into one plan, to analyze and attempt to resolve 13 resource issues, and to provide directions for site-specific activity planning in all BLM resource programs in the PRRA.

This RMP/EIS will serve a major need to comply with present BLM rangeland policy and to respond to a court mandate for preparation of a grazing EIS. Its further purpose is to evaluate the consequences of all BLM management actions in one document and to reduce the number and complexity of environmental assessments (EAs) that otherwise would have to be prepared when the plan is implemented.

DESCRIPTION OF THE PLANNING AREA

The Platte River Resource Area in east central Wyoming (see map 1) is one of three resource areas in the BLM's Casper District. It covers four counties: Natrona, Converse, Platte, and Goshen, except for the extreme southwestern portion of Natrona County. A total of about 1.4 million acres of land surface and 4.7 million acres of mineral estate in the PRRA are under BLM management.

Most of the BLM-administered surface lands are in Natrona County. Converse County is next, followed by Platte and Goshen counties. The Forest Service, U.S. Department of Agriculture, administers the Medicine Bow National Forest, parts of which are in Converse and Platte counties, and the Thunder Basin National Grassland in Converse County. The Bureau of Reclamation, U.S. Department of the Interior, administers several thousand acres throughout the resource area. Administration of mineral resources beneath Forest Service and Bureau of Reclamation lands is a joint responsibility of BLM and those agencies. Lands owned by the state of Wyoming comprise approximately 9% of the lands in the four counties. Surface ownership is displayed on map 2.

The Platte River Resource Area is bounded on the east by Nebraska, on the south and west by BLM's Rawlins District, and on the north by the Worland District and the Casper District's Buffalo and Newcastle resource areas. Under cooperative management agreements with the Worland and Rawlins districts, the PRRA administers approximately 20,140 acres of public land for grazing in those districts. Those lands are on 21 allotments that cross district boundaries. Likewise, the Rawlins District administers 15 allotments and the Worland District administers 3 allotments within the PRRA boundaries.

Except for Natrona County, most of the BLM-administered land in the PRRA is in scattered tracts intermingled with state and private lands. The scattered land pattern in the PRRA strongly affects management options. Most of the parcels in Platte and Goshen counties are small and isolated without public access. Most of the surface of public lands is used for livestock grazing, wildlife habitat, and recreation. Much of the subsurface acreage is rich in minerals, primarily oil and gas, coal, and uranium.

The major population centers of the PRRA are the county seats: Casper, Douglas, Wheatland,

and Torrington. The major center, and the one nearest the largest acreages of public land, is Casper. The primary industries within the PRRA are ranching and energy and minerals development.

THE PLANNING PROCESS

Action Steps in the Planning Process

The RMP process consists of nine action steps, which are described below and illustrated on figure 1-1.

Step 1: Identification of Issues

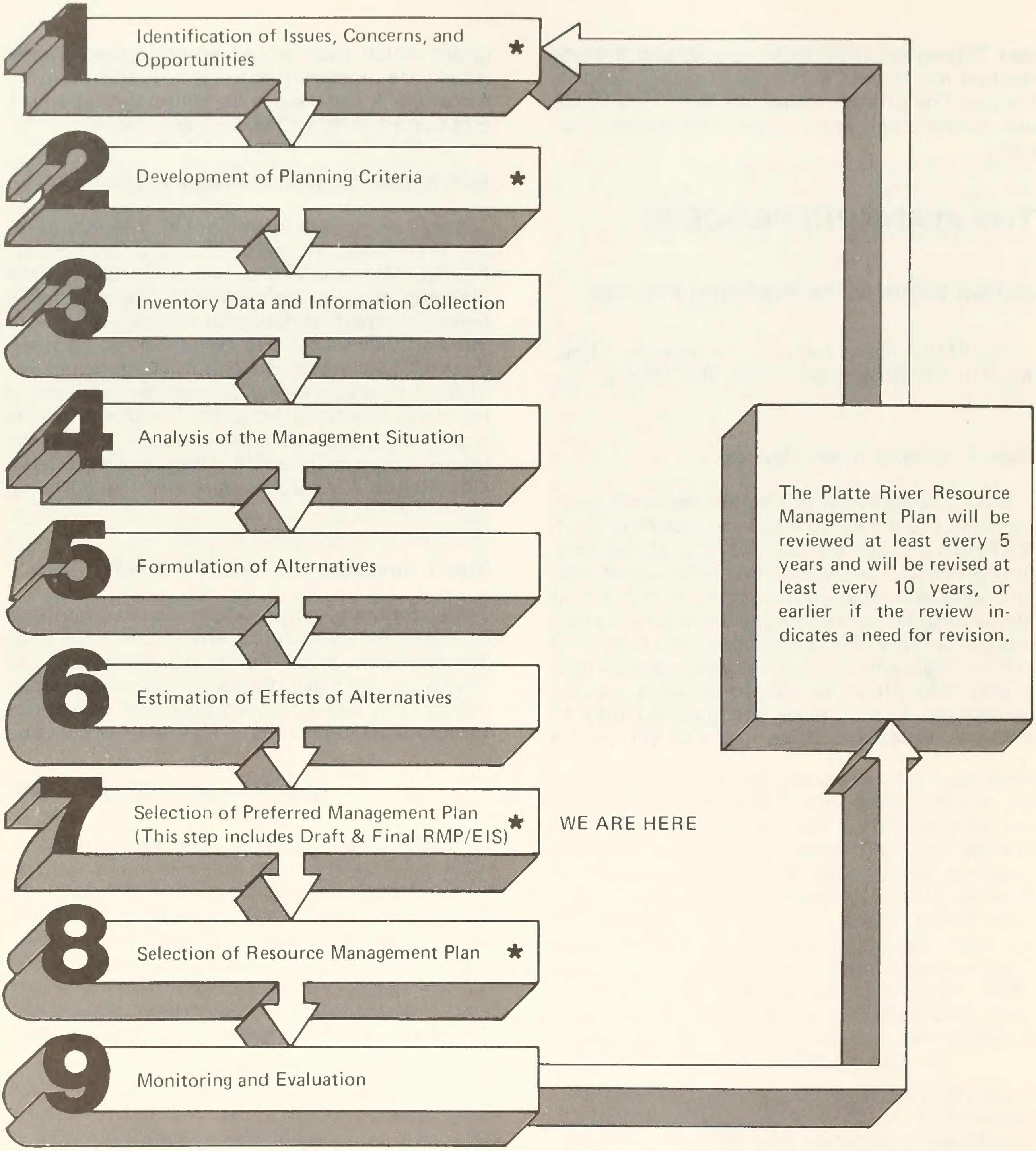
Step 1 is intended to identify resource management problems, conflicts, or opportunities in the PRRA that can be resolved through the planning process. The public, other federal agencies, and state and local governments were asked to identify public land management issues. During this step in the PRRA, a newsletter was published in April 1983, and four public meetings were held in May 1983. All issues were assessed, and those considered further were consolidated into 13 land use issues according to the BLM program under which each would be addressed. These issues are presented at the end of this chapter. Appendix A lists issues identified during step 1 and describes how they were addressed.

Step 2: Development of Planning Criteria

Step 2 involves development of criteria to identify the standards, guidelines, and constraints that would apply to each issue throughout the planning process. In the PRRA, the original 46 issues and their related criteria were published in the April newsletter and distributed to approximately 1,200 individuals on the RMP mailing list. The public also was encouraged to comment at the public meetings. No public comments on the criteria were received. Criteria were revised as the issues were consolidated. The planning criteria established for each issue are presented in appendix A.

Step 3: Inventory and Data Collection

Step 3 allows for the collection of various kinds of issue-related resource, environmental, social, and economic data. During this phase, soil surveys were completed for part of Natrona County; information was collected on range conditions for about 500,000 acres in Natrona County; and


1
Identification of Issues, Concerns, and Opportunities ★
2
Development of Planning Criteria ★
3
Inventory Data and Information Collection
4
Analysis of the Management Situation
5
Formulation of Alternatives
6
Estimation of Effects of Alternatives
7
Selection of Preferred Management Plan (This step includes Draft & Final RMP/EIS) ★
WE ARE HERE
8
Selection of Resource Management Plan ★
9
Monitoring and Evaluation
The Platte River Resource Management Plan will be reviewed at least every 5 years and will be revised at least every 10 years, or earlier if the review indicates a need for revision.

★ Public Participation Opportunities

Figure I-1
STEPS IN THE RESOURCE MANAGEMENT PLANNING PROCESS

information onwildlife habitat was collected. Information was also obtained from grazing lessees regarding management opportunities and typical operations of individual ranches in parts of Natrona County. Existing information was used for all other aspects of the plan.

Step 4: Analysis of the Management Situation

In step 4, the current situation is analyzed, public demand is assessed, and the capability of the resource area to respond to the issues is evaluated. In the PRRA, 14 separate areas, called resource management units (RMUs), were identified where specific management or dominant resource uses now occur or could occur in the future. Each RMU was analyzed in terms of the issues, the data available, and the ability of the resources to meet future demands. Various management options were explored that addressed issues in each RMU. This analysis, an intermediate stage in the planning process, is the basis for formulating the alternatives for the draft resource management plan.

Step 5: Formulation of Alternatives

Options identified in step 4 provide the basis for the alternatives formulated in step 5. For the PRRA, a range of alternatives was studied to address each program issue. Four alternatives, which are described in chapter 2, were formulated by an interdisciplinary team. Alternative 1 is the "no action" alternative, which would continue present management. Alternatives 2, 3, and 4, which would place emphasis on resource protection and production through various levels of management, provide reasonable and implementable solutions for the 13 land use issues. The criteria that were used to guide formulation of alternatives are presented in chapter 2.

Step 6: Analysis of Effects of Alternatives

In step 6, the physical, biological, social, and economic effects of implementing each alternative are assessed. This step is the environmental impact analysis required by NEPA. This analysis for the PRRA is presented in chapter 4.

Step 7: Selection of the Preferred Management Plan

Selection of the preferred management plan (step 7) in the PRRA was based on issues identified through the planning process, public input and coordination, current BLM management policies and directions, and analysis of the impacts of each alternative. Rather than select Alternative 1, 2, 3, or 4 as the preferred management plan, we selected from the elements of those alternatives what we believe to be the best approach for addressing each of the 13 issues identified earlier. These selections, which are presented as the preferred management plan, are identified on table 2-1.

The preferred plan, then, is a mixture of parts of the four alternatives. The plan is detailed in chapter 5, where site-specific implementation in each RMU is described and the rationale for selection of each element is explained.

After BLM's Wyoming state director concurs with the preferred management plan, the draft plan and draft EIS will be completed and released for public review and comment for 90 days. The comment period will begin when the notice of availability of the Draft RMP/EIS is published in the *Federal Register*.

Step 8: Selection of the Resource Management Plan

Step 8 involves selecting the proposed resource management plan on the basis of the results of public review and comment. The district manager, Casper District, will recommend a proposed resource management plan and, with the concurrence of the BLM's Wyoming state director, will publish it along with the final EIS. After publication, a 30-day protest period on the RMP/EIS is allowed. Only persons who participated in the planning process and could be adversely affected by the plan may protest.

The district manager will approve the plan no earlier than 30 days after the state director publishes the RMP/EIS.

Step 9: Monitoring and Evaluation

Step 9 involves monitoring the selected plan after it is implemented and evaluating the results. Data on long-term trends and resource conditions will be collected and analyzed so that the effectiveness of the plan can be determined. Monitoring in the PRRA will be carried out from the time the plan is implemented until changing conditions require a revision of the plan or any portion of it.

ISSUES

The 13 issues to be addressed by this plan are described below. A full explanation of how they were derived appears in appendix A.

Protection of Cultural Resources

Protection of identified cultural resource values needs to be increased for the scientific or sociocultural benefit of present and future generations. Increased activity in various land uses leads to an increased need for more effective management to protect cultural resources. Significant cultural sites may be deteriorating in value, and there is potential for permanent loss.

Sand and Gravel Extraction

The demand for sand and gravel is closely linked with construction and development occurring at or near the high population areas in the PRRA. The population areas are primarily along the North Platte River. Extraction of sand and gravel from the federal mineral estate is prohibited within ¼ mile on either side of the river for its entire length. There is a need to reevaluate this restriction and consider using sand and gravel within this ¼ mile buffer.

Fire Management

Current planning gives little direction to fire management as it relates to the resource values involved, whether it be protection through suppression efforts or prescribed burning. Resource management objectives pertaining to fire need to be established so that fire use and suppression standards will be compatible with resource values.

Timber Harvest and Pine Beetle Control

Increased public demand for wood products from public lands has generated the need for the development and implementation of a timber management program. The productivity of public forestlands needs to be increased to meet public demand. Stands of trees contributing to the increasing mountain pine beetle infestation need to be harvested to promote regeneration of trees with a higher tolerance to the pine beetle.

Grazing Management

Management changes appear to be needed in some livestock grazing allotments so that conflicts between livestock grazing, wildlife, and watershed uses and values can be reduced. Components of this issue are potential livestock-wildlife conflicts in critical ranges for antelope, deer, elk, and sage grouse; livestock-watershed conflicts in severe erosion areas or areas producing high sediment loads in streams; livestock overuse of riparian and subirrigated areas; opportunities for changing range conditions from fair to good; opportunities for range improvement projects that would increase forage or promote better utilization; prairie dog control conflicts; and weed control.

Lands

Disposal, Acquisition, and Leasing

There is a need to improve the efficiency and quality of management of the public land and to enhance the public's use of that land. Small, isolated parcels of public land scattered throughout the resource area are difficult to manage, and lack of legal access limits or precludes public use of most of those parcels. Through exchange or disposal of the isolated parcels, the BLM would have opportunities to accommodate public works projects and to meet the need for recreation and for residential, commercial, agricultural, and industrial land. Such actions also could eliminate or reduce management burdens and costs and enhance resource values and land ownership patterns.

Withdrawals

Development of locatable minerals can cause significant impacts to resource values such as developed recreation areas; scenic, natural, scientific, wildlife, and watershed values; and cultural and historic resources. In some areas, those resources could be permanently altered or destroyed. The BLM has limited control over mining activity under 43 CFR 3809, and in some cases, this control is not sufficient to protect public investments and resources. The protection afforded to three areas by the C&MU Act would be terminated.

Corridors

There is a need to change current corridor locations, to expand or relocate some corridors, and to reevaluate restricted right-of-way areas. Two existing corridors appear to be unnecessary; two others are in conflict with othermanagement programs and resource values.

Purpose and Need

Access

As recreation demand increases, so will the associated access problems. Public lands can accommodate much of the demand if legal access to these lands is obtained. Limited funds for recreation will prohibit both extensive access acquisition and continued road maintenance. Priorities need to be assigned to aquisition of access and to road maintenance; unnecessary easements currently identified need to be eliminated; and poorly located and unneeded roads should be closed.

Recreation Management

Public expectations and demand for recreational opportunities are greater, in terms of quality and quantity, than BLM recreation management can provide. Existing use points to a significant need for the development of new recreation sites and support facilities. There also is a need to expand existing areas and facilities. Reduced management capability has not allowed for the proper management of recreation resources and use by visitors. The accelerating population growth and high participation rates in outdoor recreation are placing new demands on the wildlife, fishing, scenic, and recreational resources.

Watershed Protection

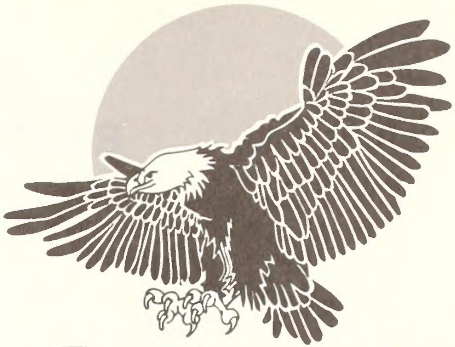
An opportunity has been identified to develop a comprehensive watershed management effort to maintain and enhance watershed quality in the PRRA. This includes the reduction of erosion and the maintenance or enhancement of water yield and quality for wildlife, recreation, livestock, municipal use, irrigation, and other public uses.

Wildlife Habitat Management

There is an increased demand for access to small game hunting areas and stream fishing areas. Existing areas are overcrowded, and potential areas lack access and management. The same problems exist for nonconsumptive uses such as wildlife observation and photography. More intensive management of existing and potential wildlife habitat areas is needed.

Areas with Special Designations

Special management attention is needed in specific areas in the PRRA to protect important cultural and scenic values, wildlife resources, and other natural systems and processes.



Alternatives

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CHAPTER 2: THE ALTERNATIVES

INTRODUCTION

This chapter presents four reasonable and achievable resource management alternatives. Alternative 1 would continue the present management in the PRRA, which has been guided by MFPs and other approved land use and activity plans. Alternative 2, low level management, would emphasize the administration of mandatory operations and other nondiscretionary public demand work at a minimum level. Intensive management would be directed at priority areas only. Alternative 3, moderate level management, would emphasize resource development consistent with necessary resource protection. Alternative 4, high level management, would emphasize a maximum level of production of resources and use.

The alternatives are designed to resolve issues that have been identified. Each alternative is discussed by program later in this chapter. A comparison of alternatives by program is presented in table 2-1. Livestock grazing for each alternative on "I" and "M" allotments is shown on table 2-2.

FORMULATION OF ALTERNATIVES

Alternatives for the resolution of the planning issues were formulated through analysis by the interdisciplinary team. Varying degrees of emphasis were placed on resource protection and resource production in the alternatives formulated.

Alternatives Considered, but Eliminated from Further Study

Several alternatives were considered during the planning process but eliminated from further detailed study. The rationale for dropping each of those possible alternatives is included in the description of each, below.

Elimination of Livestock Grazing

Elimination of livestock grazing would not have been a reasonable alternative because of the high percentage of private land that is intermingled with public land in the PRRA. To implement such an alternative, the BLM either would have had to arrange exchanges of large amounts of land or would have had to construct extensive fencing to keep livestock off public land. Neither would have been practical. The cost of the fencing would have been prohibitive, and the benefits to wildlife and watershed from elimination of livestock grazing would have been minimal.

This alternative would not have resolved the identified issues if it had been applied to the entire resource area; it would have addressed the improvement of only 100 acres of riparian vegetation. Improvement of riparian areas is addressed in each of the four alternatives described in this document.

The possibility of eliminating grazing was evaluated in connection with big game winter habitat. The evaluation indicated that livestock grazing did not conflict with most critical winter habitat for deer and antelope. There would be a potential conflict if livestock grazed on critical elk winter range and in one area of critical winter range for deer and one for antelope. However, the populations of all these species in associated herd units are at or above the herd objectives of the Wyoming Game and Fish Department. Neither range condition nor livestock-wildlife competition is the limiting factor for big game herds (Pate 1983). Landowner tolerance is the limiting factor, because many herds winter on private land to some degree.

Major Reductions in Livestock Grazing

An alternative to make major reductions in livestock grazing was considered early in the formulation process, as was a "no grazing" alternative. Both were eliminated from further study for the following reasons.

All grazing leasees were considered within the framework of possible alternatives, particularly the 94 "I" and "M" category allotments. An intensive review of all existing data by resource area specialists led to the conclusion that the range of alternatives was much narrower than it had first appeared to be. Many situations that had appeared to be resource conflicts during the allotment categorization process proved to be only potential conflicts or dual use, with no consistent overuse of the resources.

Resource conditions show that current use problems are limited and isolated, and that they generally do not occur in the same allotment or pasture year after year. In most cases, unsatisfactory range conditions have been caused by drought and overgrazing that occurred many years ago.

TABLE 2-1
SUMMARY COMPARISON OF ALTERNATIVES TO EXISTING MANAGEMENT BY PROGRAM AND ISSUE

Program and 13 Issues[a]	Alt. 1 Continuation of Existing Management[b]	Alt. 2 Low Level Management[c]	Alt. 3 Moderate Level Management[c]	Alt. 4 High Level Management[c]	Preferred Management[c] Plan
Cultural Resources 1. Resource protection	C1 Spanish Diggings-680 acres	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	C2 Oregon Trail-867 acres	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	C3 Bozeman Trail-1,030 acres	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	C4 Establish data base-PRRA	None	Alt. 1	Alt. 1	Alt. 1
	C5 Historic site inventory on 2 trails	None	High probability areas only	Alt. 1	Alt. 2
	C6 Protect cultural resources on 14 sites-2,577 acres. Includes C1, C2, and C3.	Protect 10 sites 2,402 acres	Protect 15 sites 4,005 acres	Protect 23 sites-4,725 acres	Alt. 4
			Manage Notches Dome and transfer Fort Laramie segment of Oregon Trail to NPS	Alt. 3 Do not transfer the Fort Laramie segment of the Oregon Trail to NPS	Alt. 4
				Inventory and manage the historic stage and Pony Express sites and Rawhide Buttes.	
Minerals Management Oil and Gas	M1 4,644,090 acres available subject to program constraints and mitigation	Alt. 1	Alt. 1	Alt. 1	Alt. 1
Coal	M2 Coal available in North Converse County (30,597 acres containing 555 million tons). Also 11 PRLAs--21,000 acres with 807 million tons.	Alt. 1	Alt. 1	Alt. 1	Alt. 1
2. Salable minerals					
Make more sand and gravel available, especially along the North Platte River	M3 Available on demand except along the North Platte River. Use is excluded on 12,800 acres.	12,800 acres available with District Manager approval	9,400 acres available with District Manager approval	Make available on 12,800 acres with standard restrictions	Alt. 1
Locatable minerals	M4 Available throughout PRRA except in withdrawn areas	Alt. 1	Alt. 1	Alt. 1	Alt. 1

SUMMARY COMPARISON OF ALTERNATIVES TO EXISTING MANAGEMENT BY PROGRAM AND ISSUE
(continued)

Program and 13 Issues^a		Alt. 1 Continuation of Existing Management^b	Alt. 2 Low Level Management^c	Alt. 3 Moderate Level Management^c	Alt. 4 High Level Management^c	Preferred Management^c Plan
Fire Management					Comprehensive Fire Management Plan	
3. Fire Management	FM 1	Full suppression, 100% of resource area as directed by NFYP*	Develop priority suppression planning for 6% of PRRA, incorporate in NFYP with resource-related suppression constraints, and the description of duties for resource area advisors assigned to wildfires Retain full suppression on 94% of resource area	Priority suppression, 6% of RA incorporated with NFYP* as in Alt. 2 Retain full suppression on 32% of resource area Develop limited suppression plan for 62% of resource area	Priority suppression 6% (Alt. 2) Retain full suppression in 9% of resource area Limited suppression on 85% of resource area	Alt. 3
		Prescribed burning in AMPs* approximately 1,600 acres. Prescribed burning is also used in support of the forestry program.	Prescribed burn plan would be developed at a level consistent with Alternative 2 resource planning needs.	Prescribed burn plan developed to address prescribed burn to facilitate resource needs at levels consistent with resource management priorities. Prescribed burns may be initiated by natural ignition if prior management prescriptions are in place.	Prescribed burn plan as in Alternative 3, but resource area-wide in scope. Proposed prescribed burn permit system.	
	FM 2	Restrict heavy equipment use in certain areas	Alt. 1	Increased protection on elk range and potential cultural sites as they are identified	Alt. 3	Alt. 3

SUMMARY COMPARISON OF ALTERNATIVES TO EXISTING MANAGEMENT BY PROGRAM AND ISSUE
(continued)

Program and 13 Issues[a]	Alt. 1 Continuation of Existing Management[b]	Alt. 2 Low Level Management[c]	Alt. 3 Moderate Level Management[c]	Alt. 4 High Level Management[c]	Preferred Management[c] Plan
	FM 3 Fire suppression in bald eagle roost areas	Retained, included as priority full suppression zones (NFYP)		Alt. 2	Alt. 2
Forest Management 4. Timber harvest/ pine beetle management	F1 Prepare timber management plans for 11 areas on 9,150 acres. Manage 4,750 acres of productive forestland.	No plans. Concentrate management on 3,000 acres.	No plans. Concentrate management on 8,000 acres.	Prepare timber management plans for 17 areas on 13,590 acres. Manage 8,000 acres of productive and 26,000 acres of nonproductive forestland.	Alt. 4
	Mountain pine beetle control	None	Beetle control on Muddy Mountain, Little Red Creek, and Jackson Canyon (roost area only).	Full control.	
	F2 Annual harvest level of 525 mbf	120 mbf	600 mbf	750 mbf for 5 years; 500 mbf for 5 years; then maintain at 120 mbf.	Alt. 4
	F3 Annual harvest in Muddy Mountain Environmental Education Area, 25 mbf	25 mbf	Increase to 100 mbf	Increase to 200 mbf for 3 to 5 years, and then maintain at 25 mbf.	Alt. 4
	F4 Thin 75 acres in Muddy Mountain forest demonstration area.	None	No thinning in EEA, 3 to 5 acres cut on rest of Muddy Mountain.	Thin as needed	Alt. 4

SUMMARY COMPARISON OF ALTERNATIVES TO EXISTING MANAGEMENT BY PROGRAM AND ISSUE
(continued)

Program and 13 Issues[a]	Alt. 1 Continuation of Existing Management[b]	Alt. 2 Low Level Management[c]	Alt. 3 Moderate Level Management[c]	Alt. 4 High Level Management[c]	Preferred Management[c] Plan
Grazing 5. Grazing management Lease Administration					
Total authorized use in AUMs	203,704	202,848	217,631	222,168	Alt. 1
AMPs					
Existing	Maintain 2	Maintain 2	Maintain 2	Maintain 2	Alt. 1
New	None	2	11	27	
Total AMPs	2	4	13	29	
Total acreage	35,000	135,400	562,000	1,080,400	
Range improvement projects					
New long-term projects[d]					Alt. 1
Development period in years	76	5	50	20	
Springs	43	15	43	30	
Reservoirs	132	5	132	135	
Wells	24	0	24	25	
Brush control (acres)	19,975	0	19,975	26,580	
Fence (miles)	95	24	95	97	
New short-term projects[d] (first 10 years)					Alt. 1
Springs	10	15	15	16	
Reservoirs	16	5	24	73	
Wells	3	0	5	11	
Brush control (acres)	2,000	0	4,125	14,500	
Fence (miles)	12	24	18	39	
B/C ratio	2.69 to 1	2.88 to 1	2.80 to 1	2.40 to 1	Alt. 1
Stock driveway	Allow trailing use and moderate supplemental grazing	Allow trailing use only	Allow trailing and maximum supplemental use	Allow trailing and moderate supplemental use	Alt. 1

SUMMARY COMPARISON OF ALTERNATIVES TO EXISTING MANAGEMENT BY PROGRAM AND ISSUE
(continued)

Program and 13 Issues^a	Alt. 1 Continuation of Existing Management^b	Alt. 2 Low Level Management^c	Alt. 3 Moderate Level Management^c	Alt. 4 High Level Management^c	Preferred Management^c Plan
Weed and pest control					
Weeds	County control under BLM contract	Minimal	BLM and county control	County control under BLM contract	Alt. 1
Grasshoppers	Control by APHIS*	No control	Control by APHIS*	Control by APHIS*	Alt. 1
Prairie dogs	Control	No control	Control	Control	Alt. 1
Lands					
6. Disposal, acquisition, leasing	L1 Disposition R&PP, 1,050 acres Exchanges: 33 areas Other: 29,000 acres	520 acres 2 areas 79,500 acres	1,050 acres 3 areas 102,700 acres and 23,000 of that for exchange only	1,740 acres 8 areas 102,700 and no exchange restriction	Alt. 3 Alt. 4 Alt. 3
7. Withdrswals	L2 17 withdrawals-38,800 acres	None	5 withdrawals, 10,500 acres	6 withdrawals 19,200 acres	Alt. 3
8. Corridors	L3 Corridors--8; 10 areas restricted	Move 1 corridor; eliminate 3; no areas restricted; 5 corridors would be designated	Move 1 corridor; eliminate 3; 2 restricted areas are modified and 5 corridors are designated	Alt. 3	Alt. 3
9. Access	L4 Access--46 roads	None	17 roads, 38 miles	17 roads, 38 miles, and increase cooperative agreements	Alt. 4
Recreation					
10. Recreation management	R1 Manage 2 recreation areas from existing management plans (12,733 acres). Cooperate with Buffalo Resource Area on Middle Fork Area (21,000 acres).	Alt. 1	Amend 2 existing RAMPs	Alt. 3	Alt. 3

SUMMARY COMPARISON OF ALTERNATIVES TO EXISTING MANAGEMENT BY PROGRAM AND ISSUE
(continued)

Program and 13 Issues[a]	Alt. 1 Continuation of Existing Management[b]	Alt. 2 Low Level Management[c]	Alt. 3 Moderate Level Management[c]	Alt. 4 High Level Management[c]	Preferred Management[c] Plan
	Develop 12 new recreation management plans (35,480 acres).	None	2 new plans (5,467 acres)	13 plans 36,347 acres	Alt. 3
	R2 Off-road vehicle designations (Natrona): open, 0; closed, 950; limited, 1,145,590	Open - 0 Closed - 950 Limited-1,398,503	Open - 200 Closed - 2,286 Limited - 1,396,967	Alt. 3	Alt. 3
	R3 Develop 3 plans for environmental education areas (240 acres)	None	Alt. 2	Alt. 2	Alt. 2
	R4 Maintain visual resource classes	Alt. 1	Alt. 1	Alt. 1	Alt. 1
Soil, Water, Air					
11. Watershed Protection	SWA 1 Develop watershed management plans				
	Categorize 17 sensitive drainages and fragile areas	None	Develop and implement 1 plan on 9 drainages	Manage 22 drainages and 4 fragile areas	Alt. 4
	Level II survey on 9 streams	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	Long-term monitoring on 13 streams	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	SWA 2 Surface Water Protection	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	SWA 3 Development restrictions in 10 areas to protect watershed and soil	Alt. 1	Alt. 1	Add restriction on Front Range Laramie Mountains	Alt. 4 and all in Alt. 1
	SWA 4 Slope restrictions	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	SWA 5 Restriction on Cedar Ridge	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	SWA 6 Control construction during winter	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	SWA 7 Fence reseeded areas	Alt. 1	Alt. 1	Alt. 1	Alt. 1

SUMMARY COMPARISON OF ALTERNATIVES TO EXISTING MANAGEMENT BY PROGRAM AND ISSUE
(continued)

Program and 13 Issues[a]	Alt. 1 Continuation of Existing Management[b]	Alt. 2 Low Level Management[c]	Alt. 3 Moderate Level Management[c]	Alt. 4 High Level Management[c]	Preferred Management[c] Plan
	SWA 8 Reseeding	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	SWA 9 Develop guidelines to protect fragile areas	None	Alt. 1	Alt. 1	Alt. 1
	SWA 10 Restrict development at rims and gorges	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	SWA 11 Implement Bates Hole watershed plan	None	Alt. 1	Alt. 1	Alt. 1
Wildlife					
12. Wildlife Habitst Management Areas	WL 1 Manage 3 existing HMPs*; prepare and implement 13 new HMPs	Transfer 3 HMPs* to Wyoming Game and Fish Dept; complete 1 HMP/ACEC	Maintain 3 HMPs* and develop 4 HMPs	Maintain 3 HMPs* and develop 9 HMPs	Alt. 4
	WL 2 Antelope habitat	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	WL 3 Deer habitat	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	WL 4 Sage grouse leks	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	WL 5 Elk calving ground and critical winter range	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	WL 6 Bald eagle critical winter habitat	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	WL 7 Raptors	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	WL 8 Critical winter habitat for turkeys	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	WL 9 Black-footed ferret habitat	Alt. 1	Alt. 1	Alt. 1	Alt. 1
	WL 10 Riparian habitat	Alt. 1	Alt. 1	Alt. 1	Alt. 1

SUMMARY COMPARISON OF ALTERNATIVES TO EXISTING MANAGEMENT BY PROGRAM AND ISSUE
(continued)

Program and 13 Issues[a]	Alt. 1 Continuation of Existing Management[b]	Alt. 2 Low Level Management[c]	Alt. 3 Moderate Level Management[c]	Alt. 4 High Level Management[c]	Preferred Management[c] Plan
Special Designations					
13. Intensive Management Areas	SD 1 Pterodactyl Track ACEC--cultural	Drop ACEC designation	Drop ACEC designation; withdraw 400 acres	Keep ACEC designation, withdraw 400 acres	Alt. 3
	SD 2 Red Wall ACEC--recreation	Drop ACEC designation	Alt. 2	Alt. 2 and withdraw from mineral development	Alt. 2
	SD 3 Salt Creek ACEC--watershed	Monitor progress of ACEC plan	Alt. 1 and establish as historic district. Give priority to East Teapot and Smoky Gap fields for cleanup upon completion of the Salt Creek field.	Alt. 3 and equal emphasis on all fields in the ACEC.	Alt. 3
	SD 4 Jackson Canyon ACEC--wildlife	Maintain ACEC. No forest management in ACEC. No beetle control.	Maintain ACEC. Cut and thin beetle-infested trees in roost areas.	Maintain ACEC Cut beetle-infested trees in roost areas and buffer zones.	Alt. 3
	SD 5 Muddy Mountain EEA (recreation)	Alt. 1	Manage Muddy Mountain EEA for full beetle control	Alt. 1	Alt. 3

SUMMARY COMPARISON OF ALTERNATIVES TO EXISTING MANAGEMENT BY PROGRAM AND ISSUE
(continued)

Program and 13 Issues[a]	Alt. 1 Continuation of Existing Management[b]	Alt. 2 Low Level Management[c]	Alt. 3 Moderate Level Management[c]	Alt. 4 High Level Management[c]	Preferred Management[c] Plan
	SD 6 Fragile area - Casper Sand Dunes (soil, air, water)	No special management	Amend ORV designation	Same as Alt. 3, but oil and gas leases that expire would not be renewed	Alt. 3

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*ABBREVIATIONS: ACEC = area of critical environmental concern. APHIS = Animal and Plant Health Inspection Service, U.S. Department of Agriculture. AMP = allotment management plan. AUM = Animal Unit Month. EEA = environmental education area. HMP = habitat management plan. NFYP = normal fire year plan.

a. The numbers in this column under the resource programs indicate the issues that are addressed. Issues are described in chapter 1 and appendix A.

b. Letter-number designations refer to existing land use decisions described in appendix B.

c. Where an alternative number is indicated, management would be as described for that alternative. Resource program decisions that have been retained from Alternative 1 would be carried in each of the alternatives for that program. The decisions are a part of the alternative and are merely identified as "Alt. 1."

d. "Short term" refers to less than ten years; "long term" refers to a period of ten years or more.

TABLE 2-2
LIVESTOCK GRAZING BY ALTERNATIVE

Number on Map	Operator Name	Operator Number	Existing Livestock AUMs	Alternative	Develop and Implement AMP	Increase or Decrease in Livestock AUMs	Project Development				
							Acreage of Brush Control	Number of Reservoirs	Number of Wells	Number of Springs	Miles of Fence
1	Aetna	6280	5,466	1	X	+ 130	200	1			1.0
				2	X	- 460		1			0.5
				3	X	+ 405	200	1			1.0
				4	X	+ 834	330	2	1		0.5
2	Bates Creek	6031	3,233	1	X	+ 125	750				1.0
				2	X	0					1.0
				3	X	+ 525	750				1.0
				4	X	+ 650	1,500				
3	Bentley	6033	485	1		+ 54		3			4.0
				2		0					
				3		+ 54		3			4.0
				4	X	+ 60		3			4.0
4	Bonar	6047	625	1		+ 40			1		
				2		0					
				3		+ 40			1		
				4		+ 40			1		
5	Britain	6057	388	1		+ 50	75	2			1.25
				2		0					
				3		+ 50	75	2			1.25
				4	X	+ 62	150	2			1.25
6	Burke Sheep	6066	5,826	1		+ 12	100				2.5
				2		0					2.5
				3		+ 12	100				2.5
				4		+ 24	200				
7	Carlson, A.L.	6094	2,289	1		+ 152	200	5			6.0
				2		+ 54		2			1.0
				3	X	+ 382	200	5			6.0
				4	X	+ 401	300	5			5.0
8	Cheney	6100	785	1		+ 17	160	2		1	2.0
				2		0					
				3		+ 17	160	2		1	2.0
				4	X	+ 150	320	2		1	2.0

LIVESTOCK GRAZING (continued)

Number on Map	Operator Name	Operator Number	Existing Livestock AUMs	Alternative	Develop and Implement AMP	Increase or Decrease in Livestock AUMs	Project Development				
							Acreage of Brush Control	Number of Reservoirs	Number of Wells	Number of Springs	Miles of Fence
9	Clear Creek	6107	5,819	1		+ 420	1,000	10		10	2.5
				2		0					2.5
				3		+ 420	1,000	10		10	2.5
				4		+ 501	2,200	10		10	
10	Cloud Creek	6111	1,371	1		+ 26					5.5
				2		0					
				3		+ 26					5.5
				4	X	+ 239	300				5.5
11	Coffman	6115	9,978	1		+ 700	100	20		5	18.0
				2		0				5	5.0
				3	X	+ 3,433	100	20		5	13.0
				4	X	+ 3,433	100	20			18.0
12	Cummings	6423	1,455	1		+ 195	600	2			0.5
				2		+ 110		2			
				3	X	+ 340	600	2			0.5
				4	X	+ 425	1,330	2			0.5
13	Deer Creek	6071	749	1		+ 86	360	2			1.0
				2		0					
				3		+ 86	360	2			1.0
				4	X	+ 236	360	2			1.0
14	Elkhorn	6179	8,486	1		+ 849	600	15		6	5.0
				2		0				1	
				3	X	+ 2,119	600	15		6	5.0
				4	X	+ 2,149	850	15		5	5.0
15	Garrett	6213	1,928	1		+ 215	200	5		1	4.5
				2		+ 0					1.0
				3	X	+ 600	200	5		1	4.5
				4	X	+ 652	640	5		1	3.5
16	Howard	6184	3,009	1		+ 340	1,100	8		2	3.5
				2		0					
				3		+ 340	1,100	8		2	3.5
				4	X	+ 631	1,100	8		2	3.5

LIVESTOCK GRAZING (continued)

Number on Map	Operator Name	Operator Number	Existing Livestock AUMs	Alternative	Develop and Implement AMP	Increase or Decrease in Livestock AUMs	Project Development				
							Acreage of Brush Control	Number of Reservoirs	Number of Wells	Number of Springs	Miles of Fence
17	Irvine Brothers	6300	7,465	1		+ 305	800	13		4	
				2		0				4	
				3		+ 305	800	13		4	
				4	X	+ 750	1,100	13			
18	Irvine Ranches	6302	5,807	1		+ 550	1,000	10			
				2		0					
				3		+ 550	1,000	10			
				4		+ 550	1,000	10			
19	Marton	6308	3,017	1		+ 453	1,500	6		3	4.75
				2		0				1	2.0
				3		+ 453	1,500	6		3	4.75
				4	X	+ 603	1,500	6		2	2.75
20	McGuire, F.	6394	513	1		+ 77	600		1		
				2		0					
				3		+ 77	600		1		
				4		+ 77	600		1		
21	Miles	6413	4,238	1		0					
				2		0					
				3		0					
				4	X	+ 72					
22	Burns	6416	1,260	1		+ 154	730	3		4	0.25
				2		0				1	0.25
				3		+ 154	730	3		4	0.25
				4	X	+ 280	730	3		3	
23	Mills	6422	2,238	1		+ 175	400	1		1	6.75
				2		0					
				3	X	+ 260	400	1		1	6.75
				4	X	+ 285	690	1		1	6.75
24	Rattlesnake	6015	7,163	1		+ 208	780	4	3	2	3.0
				2		0				2	3.0
				3		+ 208	780	4	3	2	3.0
				4	X	+ 1,497	1,170	6	3		

LIVESTOCK GRAZING (continued)

Number on Map	Operator Name	Operator Number	Existing Livestock AUMs	Alternative	Develop and Implement AMP	Increase or Decrease in Livestock AUMs	Project Development				
							Acreage of Brush Control	Number of Reservoirs	Number of Wells	Number of Springs	Miles of Fence
25	Rimrock	6535	439	1		+ 78	400				2.0
				2		0					
				3	X	+ 153	400				2.0
				4	X	+ 231	800				2.0
26	Robinett, V.	6539	2,804	1		+ 54		1	3		
				2		0					
				3		+ 54		1	3		
				4		+ 54		1	3		
27	Schmitt	6556	270	1		+ 40				1	
				2		0					
				3		+ 40				1	
				4		+ 40				1	
28	Shamrock	6563	1,092	1		+ 58	400				
				2		0					
				3		+ 58	400				
				4		+ 58	400				
29	Shepperson, K.	6465	2,049	1		+ 101			2		1.5
				2		0					1.5
				3		+ 101			2		1.5
				4		+ 101			2		
30	Squaw Mountain	6270	1,082	1		+ 53			2		4.0
				2		0					
				3		+ 53			2		4.0
				4		+ 53			2		4.0
31	Steinle	6602	412	1		+ 61			1	2	
				2		0					
				3	X	+ 111			1	2	
				4	X	+ 124	100		1	2	3.0
32	Stevenson	6011	4,234	1		+ 290	650		4		
				2		0					
				3	X	+ 501	650		4		
				4	X	+ 501	650		4		

LIVESTOCK GRAZING (continued)

Number on Map	Operator Name	Operator Number	Existing Livestock AUMs	Alternative	Develop and Implement AMP	Increase or Decrease in Livestock AUMs	Project Development				
							Acreage of Brush Control	Number of Reservoirs	Number of Wells	Number of Springs	Miles of Fence
33	Strohecker	6609	828	1		+ 82	870	2	1	1	1.0
				2		0				1	
				3		+ 82	870	2	1	1	1.0
				4	X	+ 337	870	2	1		1.0
34	Sullivan	6612	1,757	1		+ 37	400	1			3.0
				2		0					
				3		+ 37	400	1			3.0
				4	X	+ 315	930	1			3.0
35	Teapot	6622	2,040	1		+ 100	1,000				1.0
				2		0					1.0
				3		+ 100	1,000				1.0
				4		+ 100	1,000				
36	Willow Creek	6674	4,315	1		+ 43	200		3		
				2	X	- 560					
				3	X	+ 690	200		3		
				4	X	+ 690	200		3		
37	Wollen	6311	1,028	1		+ 68	300				
				2		0					
				3		+ 68	300				
				4	X	+ 222	300				
38	Allemand, R.	6002	1,754	1		+ 101			2		
				2		0					
				3		+ 101			2		
				4		+ 101			2		
39	Antelope Springs	6010	3,189	1		+ 185	800				4.25
				2		0					2.0
				3		+ 185	800				4.25
				4		+ 231	1,000				2.25
40	Body, A.	6040	333	1		+ 100	60				0.5
				2		0					
				3		+ 100	60				0.5
				4	X	+ 107	120				0.5

LIVESTOCK GRAZING (continued)

Number on Map	Operator Name	Operator Number	Existing Livestock AUMs	Alternative	Develop and Implement AMP	Increase or Decrease in Livestock AUMs	Project Development				
							Acreage of Brush Control	Number of Reservoirs	Number of Wells	Number of Springs	Miles of Fence
41	Body, R.	6042	307	1		0					
				2		0					
				3		0					
				4	X	+ 83	20				
50	Collins, J.	6081	982	1		0		1		1	
				2		0					
				3		0		1		1	
				4	X	+ 38		1		1	
53	Fenton	6190	542	1		+ 98	800		pipeline		
				2		0					
				3		+ 98	800		pipeline		
				4		+ 98	800		pipeline		
55	Gowin	6219	651	1		+ 39	300		1		
				2		0					
				3		+ 39	300		1		
				4		+ 39	300		1		
60	Henry	6269	1,201	1		+ 79	1,000	1			2.75
				2		0					
				3		+ 79	1,000	1			2.75
				4		+ 79	1,000	1			2.75
61	Holman	6274	997	1		0					0.5
				2		0					
				3		0					0.5
				4		0					0.5
62	Hornbuckle	6018	1,496	1		+ 74	800	1			
				2		0					
				3		+ 74	800	1			
				4		+ 74	800	1			
68	M&D	6402	1,518	1		+ 142		6			
				2		0					
				3		+ 142		6			
				4		+ 142		6			

LIVESTOCK GRAZING (continued)

Number on Map	Operator Name	Operator Number	Existing Livestock AUMs	Alternative	Develop and Implement AMP	Increase or Decrease in Livestock AUMs	Project Development				
							Acreage of Brush Control	Number of Reservoirs	Number of Wells	Number of Springs	Miles of Fence
77	Pine Mountain	6493	641	1		+ 34		2			
				2		0					
				3		+ 34		2			
				4		+ 34		2			
82	Scott, Dr.		580	1		+ 15		1		1	
				2		0					
				3		+ 15		1		1	
				4		+ 25	100	1		1	
84	Shepperson Ranch		1,026	1		+ 74	600	2			1.5
				2		0					1.5
				3		+ 74	600	2			
				4		+ 74	600	2			1.5
86	Smith Sheep		1,518	1		+ 82	120		1		
				2		0					
				3		+ 82	120		1		
				4		+ 82	120		1		

The review of existing data identified only minor reductions in livestock grazing that would improve range conditions or resolve resource conflicts. Those adjustments are included in Alternative 2. Of the 94 "M" and "I" allotments, minor adjustments would occur in 52 "M" and "I" category allotments. No problems or opportunities were identified for the remaining 355 "M" and "C" allotments that would necessitate a significant reduction in AUMs.

Reduction of Restrictions in Oil and Gas Areas

An alternative was considered that would have minimized or eliminated restrictions in areas classed as having high potential for the occurrence of oil and gas. The intent of such an alternative would have been to allow maximum access to these areas. Most areas with high oil and gas potential already are subject to fewer constraints than other areas; thus, such an alternative did not seem to be necessary.

Various Leasing Ranges for Coal Development

An alternative that would have addressed various coal leasing ranges for surface mining or underground mining operations was eliminated from detailed consideration. Federal coal lands in Converse County had been evaluated in 1983 in the Converse County coal amendment (USDI, BLM 1983a). The amendment considered the issue of coal development and addressed two alternatives. Since then, no additional information has been received that indicated an interest in coal lands beyond those addressed in the coal amendment.

The coal lands in northern Converse County are in one fairly compact block. There were no resource conflicts inside that area that were not addressed by the coal screening process. Considering the amount of coal nearby in Campbell County and the recoverability of that coal, it is expected that there will be little additional leasing interest for the coal in Converse County.

Criteria Used in Formulation of Alternatives

The following criteria were used in the formulation of alternatives discussed in this document.

Each issue was to be addressed in the alternatives according to the following guidelines:

> The "no action" alternative (Alternative 1) consists of continuation of present management. According to guidance for grazing EISs, a "proposed action" must be presented. Alternative 1 will be the proposed action for grazing. Hereafter, this alternative will be referred to as "continuation of present management."
>
> "Low level management" (Alternative 2) involves compliance with laws and regulations and prescription of management direction for high priority sites or areas.
>
> "Moderate level management" (Alternative 3) is a more aggressive management level that allows full use of resources and provides adequate protection for resources.
>
> "High level management" (Alternative 4) represents maximum production or maximum protection, depending on the resource program being considered.

Each alternative was to be reasonable, implementable, and achievable.

Compliance with laws, regulations, and policy was to be assumed in all alternatives.

It was to be assumed that decisions contained in present plans (and described in Alternative 1) would be continued unless they were changed by selection of another alternative.

In all alternatives, it was assumed that oil and gas leasing would continue as recommended in the PRRA's oil and gas leasing EA (USDI, BLM 1982b). However, it was understood that leasing levels and protective measures might be different in the different alternatives.

It was assumed that the coal lands identified for further leasing consideration in the Converse County coal amendment (USDI, BLM 1983a) would not change unless a call for coal resource information indicated that additional coal lands should be addressed.

At least one alternative was to address each of the specific needs described below in the program indicated:

> Cultural Resources—protection of cultural resources and appropriate management of all sites on BLM-administered lands that are known to be of National Register quality.

Forest Management—full control of pine beetle infestations on Casper Mountain and Muddy Mountain.

Lands and Realty—specific identification of areas to be considered further for withdrawal.

Recreation—minimum actions needed to meet the projected demand for developed recreation sites.

Grazing Management—livestock management opportunities in fragile watersheds. Allotment categorization was to be addressed in Alternative 1.

Watershed—an aggressive watershed management program for the Bates Hole area.

Alternatives for which funding would not be available were not to be selected as the preferred alternative even though they might be reasonable and feasible. However, those alternatives would be analyzed in the plan.

DESCRIPTION OF ALTERNATIVES ANALYZED

Alternative 1: Continuation of Present Management

Alternative 1 was derived through an interdisciplinary process of extrapolating valid past management decisions from existing MFPs and other land use and activity plans. A record of this screening process is available for review at the PRRA office in Casper.

The description of Alternative 1 in this chapter is a brief summary of current management. It is presented in this manner for readability. The original planning decisions that guide this management are described in detail in appendix B in the same program sequence as that presented here. It is important for the reader to understand that if any element of Alternative 1 should be selected as the preferred alternative, it would be implemented or applied as described in appendix B.

The decisions in appendix B that constrain or limit surface develoment are identified with an asterisk. Those decisions would apply to any land use proposal involving surface development; that is, construction of and/or placement of facilities. Areas where development restrictions would be applied are defined on maps 4 (cultural resources), 13 (recreation), 15, 16, and 17 (soil, water, and air), 18, 19, and 20 (wildlife), and 21 (special designations).

Cultural Resources

Under Alternative 1, surface development would be prohibited on the following sites to protect the cultural resources: Spanish Diggings, 680 acres; Oregon Trail, 867 acres; Bozeman Trail, 1,030 acres, including Ryan Hill, 760 acres, and Emigrant Gap, 160 acres;AR-49-06-165, 1 acre or less; AR-49-06-171, 1 acre or less; AR-49-06-126, one acre or less; Rock Cairn Trail, acreage to be determined by inventory. The acreages specified would provide the minimum buffer area required to ensure that surface disturbance would not compromise site values. A total of 14 sites, encompassing 2,577 acres, would be protected.

Class III (field intensive) historic sites inventories would be conducted on the Texas Trail and the Oregon-Mormon Trail. A predictive model system would be developed to identify a real probability for the presence of cultural resources (see map 4).

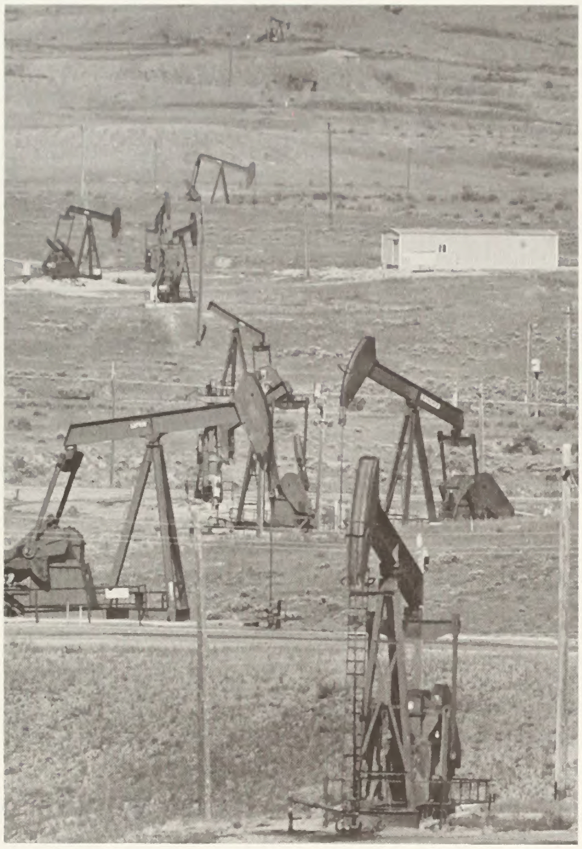
Energy and Minerals

BLM-administered public lands would remain open for oil and gas leasing and development under this alternative. Leasing would be subject to the standard state leasing stipulations described in appendix C. Development would be subject to the land use decisions in appendix B that are marked as constraining or limiting surface development. Naval Petroleum Reserve No. 3 and Camp Guernsey are not available for oil and gas leasing.

Oil and gas development in the PRRA was addressed in an EA in 1982 (USDI, BLM 1982b). A summary of that assessment is provided in appendix G. About 12,000 acres of public minerals would be excluded from oil and gas development as a result of land use planning. An additional total of 15,000 acres would not be available because of two mineral withdrawls.

A total of 30,597 acres in northern Converse County containing about 555 million tons of coal would be available for further leasing consideration. Eleven PRLAs would be processed. These PRLA areas encompass 21,000 acres containing about 807 million tons of coal.

Federal coal land available for further leasing consideration was identified through the coal planning process defined in 43 CFR 3420.1-4. A summary of the results of applying the coal planning process is presented in appendix H. The summary includes coal lands that are available for further leasing, addresses PRLAs, and briefly discusses existing leases (see map 6).



Mineral material would be available throughout the PRRA, subject to the ¼ mile restriction along the North Platte River (see map 6).

Locatable minerals would be available throughout the resource area, except in areas withdrawn from mineral entry.

Fire Management

Full suppression (100%) would be carried out for all fires in the resource area. Prescribed burning would proceed on two AMPs under Alternative 1. Prescribed fire use in the Bates Creek Reservoir area would be designed to improve sage grouse habitat.

Cutting trees during fire suppression would not be permitted within 200 yards of bald eagle roost areas in Jackson Canyon.

The use of heavy equipment for fireline construction would be prohibited on or adjacent to remnants of the Oregon and Bozeman trails.

Forest Management

The current annual timber harvest is 525 mbf. Under Alternative 1, the emphasis would be on pine beetle management in Little Red Creek for three to five years. The annual harvest would include an annual cut of 25 mbf in the Muddy Mountain forest demonstration area for five years. Thereafter, 75 acres of samplings in the demonstration area would be thinned at ten-year intervals. Timber management plans would be developed for 11 areas containing about 9,150 acres. Present management would continue on 4,750 acres of productive forestland (see map 8).

Stage II (intensive) inventories would be completed on 3,000 acres of productive forestland.

Grazing Management

Grazing Administration

Under this alternative, 407 leases authorizing 203,704 AUMs of livestock grazing would be continued on 1,419,377 acres of public land until use supervision, studies, and monitoring showed a need to make changes. This total acreage represents the total grazing land administered by the PRRA, including some allotments in other resource areas. A potential short-term improvement in AUMs would be allocated to livestock, wildlife, and watershed uses. The Bates Creek and Table Mountain AMPs would be maintained; no new AMPs would be implemented. "C" category allotments would be monitored.

Project Development

Range improvement projects under Alternative 1 would favor production of livestock forage. Over about 76 years, project development on "I" and "M" allotments for this alternative would be brush control on 19,975 acres, 132 reservoirs, 24 wells, 43 springs, and 95 miles of fence. In the first ten years, brush control would be initiated on 2,000 acres; 16 reservoirs, 10 springs, and 3 wells would be constructed; and 12 miles of fence would be built. Table 2-2 indicates the kinds and number of projects that would be implemented on "I" and "M" allotments. These allotment boundaries are shown on map 9 and range improvement projects on map 10.

Other Management Actions

Weed and pest control would be continued as needed. Counties would handle the weed and pest control under contracts with the BLM.

Grazing on stock driveways would be allowed under supplemental leases as well as during trailing.

Lands

Land Disposition

Under Alternative 1, a total of 1,050 acres in six areas would be reserved for disposal only under the Recreation and Public Purposes Act (R&PP). Of this total, 200 acres could be considered for disposal by other methods after 1985.

The BLM would pursue exchanges in 33 areas. Disposal by other methods could be considered for 29,000 acres in Converse, Platte, and Goshen counties. "Other methods" of disposal can include R&PP for any lands in the resource area not specified above, lands exchanged in any of the above 33 areas or any other exchanges proposed by the public, sales, leases, or any other land use authorization or ownership transfer.

Withdrawals

Protective withdrawals would be pursued in 17 areas covering 38,800 acres. This would include converting to withdrawals three areas segregated from mining under the Classification and Multiple Use Act of 1964. One existing withdrawal on the North Platte River would be continued.

Corridors

Eight corridors would continue to be used for placement of major rights-of-way (see map 12). Placement of rights-of-way would be prohibited in ten areas.

Access

Acquisition of access would be pursued on 46 roads crossing 148 miles of private land.

Recreation Management

Management would continue according to two existing recreation area management plans (RAMPs) for Muddy Mountain (12,000 acres) and Goldeneye (733 acres). Management in the Middle Fork area (21,600 acres) would be a cooperative effort with the Buffalo Resource Area, Casper District (see map 13). Guidance for management would be the Middle Fork Management Plan. RAMPs would be initiated and completed for 12 additional areas containing 35,480 acres.

ORV designations would be maintained as follows in Natrona County: closed areas, 950 acres; limited areas, 1,145,590 acres; no open areas. ORV designations would be developed for the remaining 252,913 acres of public land in the PRRA.

Three environmental education area plans would be developed cooperatively with the Natrona County school system on 240 acres.

The visual resource management (VRM) system would be applied to specific land use proposals.

Soil, Water, and Air

Priorities would be established for 17 sensitive drainages and fragile areas, and watershed plans would be developed as necessary. The Bates Hole watershed plan, covering 9 sensitive drainages, would be retained and fully implemented (see map 15).

Monitoring surveys would be initiated on 9 streams, and long-term stream monitoring stations would be established on 13 streams.

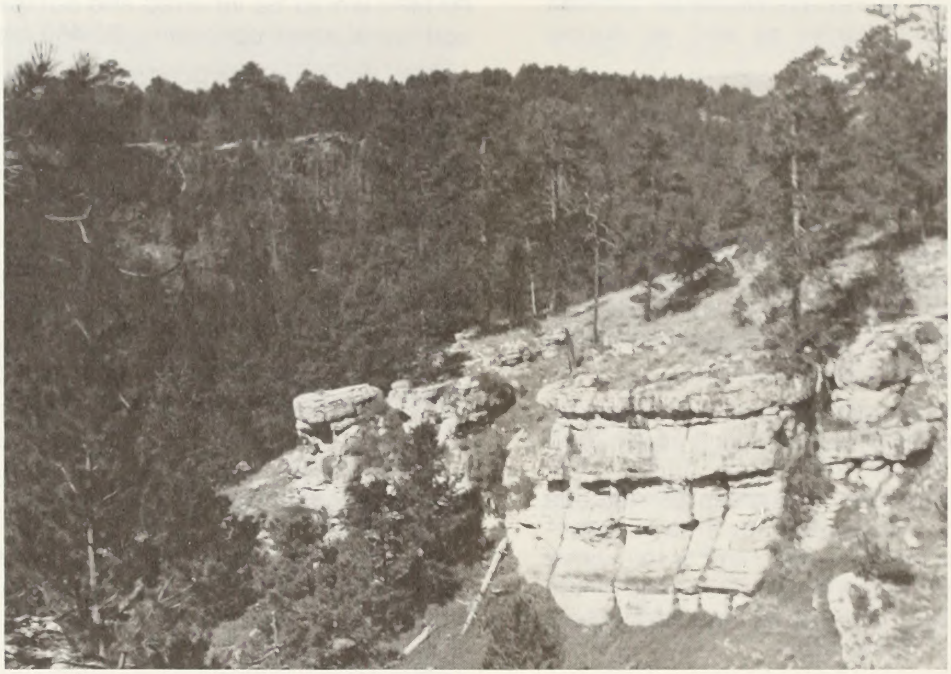
Site-specific guidelines would be developed for the protection of four fragile areas. All planning decisions designed to protect fragile areas and surface waters from surface development would be retained. Those decisions are described in appendix B. (Also see maps 16 and 17).

Wildlife

Management according to existing HMPs would continue in the following areas: Table Mountain (1,540 acres), Springer/Bump-Sullivan (600 acres), and Jackson Canyon (3,600 acres of public surface; 10,160 acres of federal minerals).

HMPs would be prepared for the following 13 areas: Bates Creek Reservoir, Bates Creek Aquatic Habitat, Dry Fork of LaPrele Creek, LaBonte Creek, Upper Laramie River, Teal Marsh Reservoir, Bishop Waterfowl Area, Thirty-three Mile Reservoir, Pine Ridge, Walker Creek Ridge, Baldy Ridge, Hartville Uplift, and Squaw Mountain (see map 18). Management actions proposed for these areas are defined in appendix B.

All planning decisions that constrain surface development in important wildlife areas would be retained. These are defined in appendix B (also see maps 19 and 20).



Special Designations

The Pterodactyl Track ACEC designation would be maintained at 1,200 acres. No surface development would be allowed inside that area.

The Red Wall ACEC would be maintained, and no surface development would be would be allowed within ½ mile of the Red Wall. The area would be managed according to an ACEC plan to be developed.

The Salt Creek ACEC would be maintained. The BLM would conduct various types of watershed and water quality monitoring as described in the Salt Creek ACEC plan.

The Jackson Canyon ACEC would be maintained on 13,760 acres. There would be no surface development inside the ACEC boundary on 3,600 acres of public surface and 10,160 acres of federal mineral estate. In addition, there would be a seasonal restriction on 4,500 acres outside the ACEC boundary.

The Muddy Mountain EEA would be maintained at 1,260 acres. Surface development would be prohibited in the 700-acre natural area. An annual harvest of timber products at 25 mbf would be allowed in the EEA.

The Casper Sand Dunes would be managed as a fragile area. Access would be provided at one location, and various restrictions would be applied to protect the fragile environment.

Special designations are identified on map 21.

Alternative 2: Low Level Management

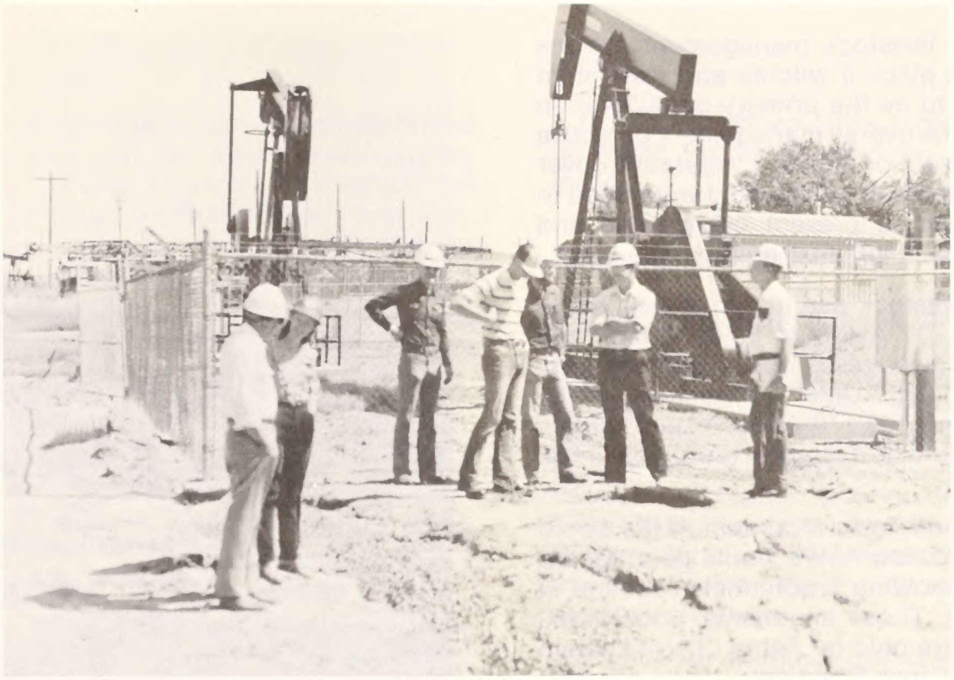
Cultural Resources

Emergency interim protection of significant cultural sites, which would have low priority, would be carried out only when such sites were identified.

The Oregon-Mormon Trail segments would be protected in accordance with BLM statewide "Guidelines for the Evaluation of Historical Wagon Trails" and in accordance with the statewide management plan for the Oregon-Mormon Trail, which is in the process of completion.

Spanish Diggings and segments of the Bozeman trail would be protected as described for Alternative 1.

A total of ten cultural sites (2,402 acres) would be protected.



Energy and Minerals

Under Alternative 2, the restriction of development within ¼ mile of either side of the North Platte River would be eased to allow extraction of sand and gravel. This activity would be subject to the approval of the district manager case by case. Priority for sand and gravel extraction would be as follows: (1) high potential lands (400 acres), (2) moderate potential lands (800 acres), and (3) low potential lands (11,600 acres).

Management of oil and gas, coal, and locatable minerals would be the same as that described for Alternative 1.

Fire Management

Priority fire suppression zones to be established on about 85,000 acres, or 6% of the resource area, would be incorporated into the normal fire year plan. The remaining 94% of the resource area would remain under full suppression. Cultural and wildlife resource constraints described for Alternative 1 also would be incorporated into the normal fire year plan.

Site-specific prescribed burn plans would be initiated according to activity plans established for grazing, wildlife, and forestry.

Forest Management

Under Alternative 2 the annual allowable harvest level would be 120 mbf. This would include the 25 mbf of posts and poles from the Muddy Mountain forest demonstration area. Intensive pine beetle management and other resource management practices would not be pursued.

No timber management plans would be prepared, no thinning of precommercial stands would be done, and no inventories would be conducted.

Management attention would be centered on six areas encompassing 3,000 acres of forestland around the Casper area, where maximum demand for fuelwood and posts and poles occurs. These areas are Little Red Creek, Muddy Mountain, Jackson Canyon, Deer Creek, Negro Hill, and Graves Springs. Infested beetle trees in these areas would be harvested as the 120 mbf cut allowed. Regeneration would occur naturally.

Grazing Management

Grazing Administration

The grazing program under Alternative 2 would emphasize wildlife and watershed uses. Analysisof this alternative contains a "worst case" presentation of livestock management actions that would take place if wildlife and watershed resources were to be the primary consideration for all actions. The overall management objective would be to protect or improve vegetative cover and forage available to wildlife and watershed in critical areas and to prevent overgrazing and downward trends in all other areas.

Authorized livestock use in two leases would decline from 9,781 AUMs to 8,761 AUMs, and livestock use in two leases would increase from 3,744 AUMs to 3,908 AUMs. Livestock use in 403 leases containing 190,179 AUMs would remain static. There would be a total net reduction of 856 AUMs.

Bates Creek and Table Mountain AMPs would be retained. Two new AMPs would be prepared for allotments showing a potential reduction in livestock AUMs. Those allotments, which total 135,400 acres, are held by Aetna Life Insurance Co. and Willow Creek Company.

Intensive studies and monitoring systems would be placed in AMP areas and other areas only if problems occurred.

Forage or vegetation available through livestock reductions or an improvement in range conditions would be reserved for watershed and wildlife uses.

Project Development

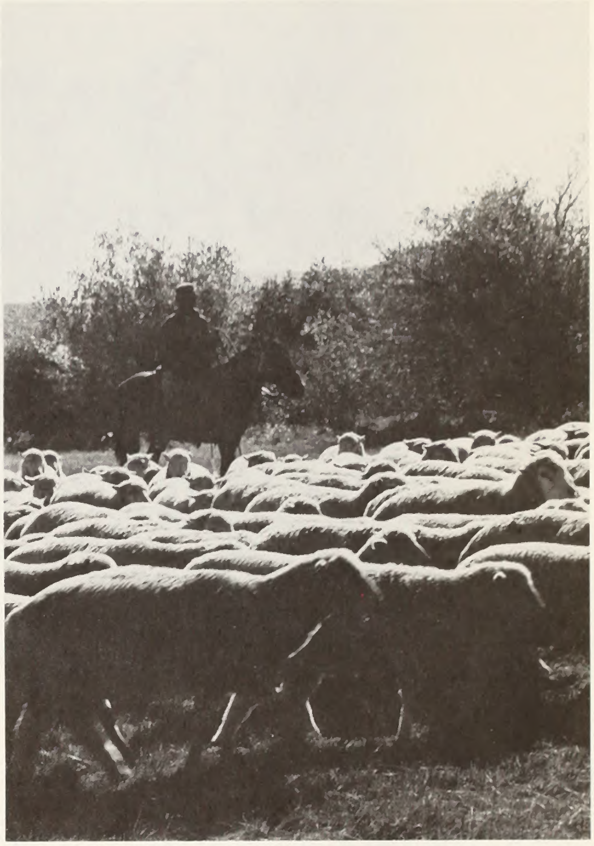
The following types of projects would be completed over the next five years: 24.25 miles of fence, 5 reservoirs, and 15 springs. Fences would be used to protect riparian areas and critical wildlife habitat. No other fences would be allowed. Water developments would be allowed only where needed by wildlife, and wildlife stipulations would be strictly applied to all projects. Table 2-2 indicates the kinds and number of projects that would be implemented on "I" and "M" allotments under Alternative 2.

Weed and Pest Control

Weed control efforts would be minimal. They would be used only where needed to protect private lands. There would be no prairie dog control or grasshopper control.

Stock Driveways

Stock driveways would be used only for trailing livestock.



Lands

Land Disposition

A total of 520 acres in two areas would be reserved for disposal only under the R&PP Act. The areas are Casper Mountain and the Natrona School site near Robertson Road.

The BLM would pursue exchanges in two areas, Muddy Mountain and the North Platte River. Other exchanges proposed by the public would be considered case by case, but only if exceptional public benefit would be derived.

Disposal by other methods (R&PP, exchanges, sales, lease, or other land use authorizations or ownership transfers) could be considered for 79,500 acres. All of this acreage is in RMU 14.

Withdrawals

No protective withdrawals would be pursued. One existing withdrawal on the North Platte River and three C&MU classifications would be revoked.

Corridors

The primary purpose of corridor designations is to create corridors for major cross-country right-of-way facilities. This does not preclude the placement of small facilities, where practical, within the corridors to gain corridor sharing benefits where adequate space is available.

Three corridors would be eliminated: Wyoming Highway 59, I-25 east of Casper, and the North Platte River.

The Oregon trail corridor and four existing corridors would be designated in accordance with 43 CFR 2806. Except for the new Oregon Trail location, each designation would include the same types of facilities that are present within the corridor.

Future corridor adjustments and new corridor designations would be made only when facility placement within an existing designated corridor was incompatible or unfeasible and when the environmental consequences could be adequately mitigated.

Designated widths and facility size limitations would be as follows:

Oregon Trail Road—This corridor would be 1 mile wide and located at least 1 mile north of the Oregon Trail Road. The southern half of the corridor would be used for pipelines and the northern half for power lines. All sizes of pipelines and power lines would be considered.

Poison Spider Road—This corridor would be ½ mile wide, ¼ mile on each side of the road. Only wood pole power lines and telephone lines would be considered for this corridor.

U.S. Highway 20-26—This corridor would be 3 miles wide, 1½ miles on each side of the highway. All types and sizes of facilities would be considered.

Wyoming Highway 259/U.S. 87—This corridor would be 1 mile wide between Casper and Ormsby Road, 5 miles wide between Ormsby Road and Midwest, and 2 miles wide between Midwest and the northern boundaries of the resource area. All types and sizes of facilities would be considered.

Wyoming Highway 387—This corridor would be 2 miles wide, 1 mile on each side of the highway. Wood pole power lines and telephone lines would be considered.

Problems of technical compatibility between facilities and spacing of facilities in corridors would be solved case by case.

No areas would be closed to rights-of-way.

Access

No easements would be pursued. Existing public roads would be used for access to public lands.

Recreation Management

On-site management and maintenance would be limited to two special recreation areas for which RAMPs have been completed: Muddy Mountain (12,000 acres) and Goldeneye (733 acres). Those two RAMPs recommend specific actions for the management of the resource and its use for recreation, wildlife, timber, range, minerals, lands, fire, administration, and maintenance. RAMPs would not be prepared for other recreation areas; rather, these areas would be managed as extensive areas.

The PRRA would cooperate with the Buffalo Resource Area in managing the 21,000 acres of the Middle Fork area that are in Natrona County, according to the management plan for that area.

ORV management for the eight designated areas (1,146,540 acres) in Natrona County would be continued through limited monitoring, use supervision, and enforcement. The remaining public lands in the PRRA (252,913 acres) would be designated as limited to travel on existing roads and trails. The total ORV designations in the PRRA would be as follows: open areas, none; closed areas, 950 acres; and limited areas, 1,398,503 acres.

No environmental education area plans would be developed. We would continue to issue permits for the use of three environmental education sites (240 acres) annually.

The VRM system would be applied to specific land use proposals.

Soil, Water, and Air

Under Alternative 2, surface protection stipulations would be applied as described in appendix B, except that the ¼-mile restriction on development along the North Platte River would be revoked to allow for sand and gravel extraction.

The Bates Hole special study as discussed in the preliminary plan would be dropped from further consideration. As a result, there would be no surface treatment or development of water retention structures.

No action would be taken on the development of site-specific protection guidelines for the fragile areas identified for Alternative 1.

No action would be taken to identify the source of problems in sensitive drainages as described for Alternative 1, nor would any management action be taken to reduce those problems.

Work would continue toward completion and publication of the order 3 soils survey.

The level II water inventory would continue as scheduled.

The inventory of water sources on public lands would be continued by district operations personnel, but it would not be completed by October 1985 as it would under Alternative 1.

Wildlife

Alternative 2 would reduce the level of direct BLM management by transferring management or ownership of three areas to the Wyoming Game and Fish Department (WGFD). These areas are Table Mountain and Springer/Bump-Sullivan, which now are being managed cooperatively, and the Rawhide parcel.

An ACEC/HMP would be completed for Jackson Canyon, and the area would be managed for bald eagle habitat as described under "Special Designations." No other HMPs would be prepared.

Planning decisions from Alternative 1 that constrain surface development would be maintained.

Special Designations

Under Alternative 2, Salt Creek and Jackson Canyon would retain their special designations as ACECs. The ACEC/HMP for Jackson Canyon would continue to be implemented. Jackson Canyon would be managed at the same level as discussed for Alternative 1, except that no forest management or pine beetle control would be practiced.

The Red Wall and the Pterodactyl Track area would no longer be designated ACECs; instead, they would be managed for protection under existing land management decisions.

The Casper Sand Dunes and the natural area in the Muddy Mountain EEA would continue to be managed as described for Alternative 1.

Alternative 3: Moderate Level Management

Cultural Resources

Under Alternative 3, the BLM would, when necessary and appropriate, transfer ownership or management of a cultural site to the federal, state, or local agency most capable of maintaining the site's integrity. The Fort Laramie Segment of the Oregon Trail would be a potential candidate for transfer to the National Park Service. Spanish Diggings would be protected as described for Alternative 1.

The Oregon-Mormon and Bozeman trails would be managed to protect federal surface segments in accordance with the BLM Statewide "Guidelines for the Evaluation of Historical Wagon Trails." The Notches Dome area and the Spanish Diggings also would be protected. Such protection could be achieved through ORV closures or exclusion of surface development.

Cultural sites with potential for nomination to the National Register would be protected through prohibition of surface development and, when necessary, by stabilization or salvage. A total of 15 sites (4,005 acres) would be protected. Priority sites are as follows.

AR-49-06-165 (48NA227)

AR-49-06-171

AR-49-06-126 (48NA84)

Rock Cairn Trail (South Big Horn Mountains)

A data base would be developed for management purposes through the use of a predictive model for identifying areas in the PRRA with high, medium, and low probability for cultural sites. Continued Class III inventory probably would be required only in high and medium probability areas.

A cultural resource management plan (CRMP) would be prepared for the Notches Dome Archeologic District. The plan would focus on management of significant sites in that district.

Energy and Minerals

Under Alternative 3, sand and gravel would not be extracted within ¼ mile of the North Platte River between Alcova and Casper. This would affect 100 acres with high potential for commercial sand and gravel, 200 acres with moderate potential, and 3,140 acres with low potential, for a total of 3,440 acres.

The extraction of sand and gravel would be permitted within ¼ mile of the river between Casper and the Wyoming-Nebraska state line. Standard stipulations would be applied. This would make available 300 acres with high potential, 600 acres with moderate potential, and 8,540 acres with low potential, for a total of 9,400 acres.

Management of oil and gas, coal, and locatable minerals would be as described for Alternative 1.

Fire Management

Priority full suppression zones would be incorporated in the normal fire year plan (NFYP). An estimated total of 85,000 acres would be in this designation, or about 6% of the BLM surface acreage in the resource area. The remainder would be managed either under current guidelines or under a limited suppression plan.

Current fire suppression methods would be retained for approximately 32% of the resource area. This would include scattered parcels in Converse, Platte, and Goshen counties and proposed buffer zone areas throughout the PRRA.

A limited suppression plan would be developed to address reduction or modification of suppression methods primarily in Natrona County and on large parcels of public land in the other counties in the PRRA. These parcels must be 3,000 acres or more and at least ½ mile wide. Approximately 864,760 acres that fit the size criteria would be evaluated to determine whether the low value, low risk resource criteria could be applied.

Interim management would require current fire suppression standards to be applied to potential limited suppression areas until a prescription could be written addressing resource values, land ownership, and other critical parameters. Limited suppression zones would be expanded to include private and other public lands after the owners of adjacent land had entered into a cooperative agreement. About 100,000 acres of public land could be incorporated into the limited suppression plan through the cooperative agreement effort.

Cultural and wildlife resource constraints as described for Alternative 1 would be incorporated in the normal fire year plan, as would any additional protection needs.

An operational plan for management at prescribed fire would be established in the PRRA. Prescribed burning would be initiated as needed for range, wildlife, and forest needs throughout

the resource area provided the potential burn area could meet the following criteria:

A site-specific burn plan had been written and approved.

The burn project would yield a positive benefit/cost ratio and would meet the management priorities of the benefiting resource programs.

Prescribed fire could be accomplished by natural ignition on areas where prior prescription parameters and resource management objectives were in place.

Forest Management

This alternative would assign priority to timber harvest on 8,000 acres of productive forestland. Primary emphasis would be on Little Red Creek, Jackson Canyon, and Muddy Mountain. Secondary attention would be given to Deer Creek, Negro Hill, Grave Springs, Baldy Ridge, and Squaw Mountain. Primary areas would be harvested by 1990, secondary areas by 1995.

Timber harvest would be at an annual cut of 600 mbf. This would include 100 mbf of pine beetle-infested trees from the Muddy Mountain natural area and 100 mbf of posts and poles from the forest demonstration area. No thinning would be initiated in the Muddy Mountain forest demonstration area. Harvest at this rate would continue until the supply was exhausted in three to four years. The rest of the annual cut (400 mbf) would be directed at Little Red Creek and Jackson Canyon, and then to secondary areas. Lodgepole and ponderosa pine in the areas would be managed to reduce mountain pine beetle incidence and to increase the growth, health, and vigor of the remaining trees.

The following eight forest areas would be evaluated for timber harvest potential from 1985 to 1990: Esterbrook, Squaw Mountain, Hartville-

Sunrise, Negro Hill, Banner Mountain, Coal Mountain, Bessemer Mountain, and Salt Canyon. Seven forest areas would be evaluated for timber harvest potential from 1990 to 1995: South Cottonwood-Notches Dome, Baldy Ridge, Rattlesnake Mountain, Badwater, Sioux Pass, Pine Mountain, and Bates Creek-Sheep Creek.

Silvicultural practices would complement the timber harvesting on Muddy Mountain except in the EEA. Lodgepole pine seedling stands would be thinned through Christmas tree sales. Commercial lodgepole pine stands would be thinned by sales of post and poles and fuelwood. Overmature trees infested by dwarf mistletoe would be cut and removed. Clearcutting of 3 to 5 acres would provide for natural regeneration. If the stand was not regenerating naturally in three years, artificial regeneration would be undertaken.

Grazing Management

Grazing Administration

Our objective under Alternative 3 would be to increase livestock forage production and improve wildlife and watershed conditions in 48 leases and to monitor all others for overgrazing and downward trends. Livestock AUMs would increase from 203,704 to 217,631, a net increase of 13,927 AUMs. There would be no livestock use reductions.

We would retain the Bates Creek and Table Mountain AMPs and implement 11 new AMPs for high priority "I" category allotments. This could cover a total of 562,000 acres.

AMP areas would be intensively monitored. For other allotments, we would conduct low level studies but carry out relatively high levels of use supervision.

Forage increases would be allocated on the basis of need to livestock, wildlife, and watershed.

Project Development

The following projects would be developed over 50 years: 95 miles of fence, 132 reservoirs, 24 wells, 43 springs, and 19,975 acres of brush control. In the first ten years, 18 miles of fence would be built, 15 springs and 5 wells would be developed, 4,125 acres of brush control would be carried out, and 24 reservoirs would be constructed. Fences would be used for two purposes: livestock management and protection of riparian areas around streams, reservoirs and springs. Water developments would be allowed except where a specific development might create a livestock-wildlife conflict in critical big game range. Brush control would be limited in critical big game winter range and in sage grouse habitat.

Weed and Pest Control

Existing weed and grasshopper control programs would be continued. Prairie dog towns could be poisoned unless a sighting of a black-footed ferret had been documented within the previous five years or unless the Fish and Wildlife Service, U.S. Department of the Interior (USFWS) indicated that maintenance of a town would be essential to survival of the ferret.

Stock Driveways

Stock driveways would be used for trailing. Supplemental use would be permitted case by case.

Lands

Land Disposition

Under Alternative 3, 1,050 acres in six areas would be reserved for disposal under the R&PP Act. Of this, 410 acres in three areas could be considered for disposal by other methods after 1987. These areas are the Casper area, Glendo Reservoir, and Gray Rocks Reservoir.

The BLM would pursue exchanges in three areas, Muddy Mountain, Table Mountain, and the North Platte River.

Disposal of 102,700 acres by other means could be considered. Lands in RMUs 1 through 13 would be disposed of only to complete an exchange or to accommodate important public purpose needs.

Withdrawals

Withdrawals would be pursued on four areas: Muddy Mountain EEA, Table Mountain, Jackson Canyon, and Pterodactyl Tracks. One withdrawal on the North Platte River would be continued.

Corridors

Corridors would be managed as described for Alternative 2.

Three of eight existing corridors would be eliminated. Five would be retained; one of these would be moved from its present location. Restrictions on placement of rights-of-way in the following areas would be modified as follows:

> Rights-of-way on Pine Ridge and in the area west of Pine Ridge would be limited to the ridge area only.
>
> Rights-of-way in the Red Wall and South Big Horns areas would be limited to the area north and west of the Badwater, Lost Cabin, and Buffalo Creek roads, and the Red Wall ACEC.

Most of the South Big Horns area is leased for oil and gas, and drilling may occur in the near future. If production is achieved, rights-of-way will be allowed only in accordance with an approved oil field development plan. Rights-of-way needed to transport products out of the area will parallel county roads except on the Big Horn Mountains, Okie Trail, and Buffalo Creek County roads.

Placement of rights-of-way would continue to be restricted on eight areas.

Access

We would pursue acquisition of 17 easements or cooperative agreements for access over 38 miles of private land.

Recreation Management

Under Alternative 3, priority of management and maintenance of the eight existing recreation sites would be as follows: Muddy Mountain, Goldeneye, Bessemer Bend Historic Site, Trapper's Route Canoe Trail, Oregon-Mormon Trail, Buffalo Creek Campground, Grave Springs Campground, and Camel Hump Campground.

Facilities would be developed as described in the Muddy Mountain and Goldeneye RAMPs, except that the Muddy Mountain RAMP would be amended to include a day use area and group camping area, and the Goldeneye RAMP would be amended to provide an overnight camping area. Facility development in the other areas would be limited to support facilities necessary for the health and safety of people using the recreation sites. We would continue monitoring, use supervision, and enforcement on all public lands in the PRRA.

A RAMP would be developed for the North Platte River from Alcova to the Wyoming-Nebraska state line (4,600 acres), and the PRRA would provide input on recreation needs for the statewide Oregon-Mormon Pioneer National Historic Trail Recreation Area Management Plan. That plan is being prepared by the Rawlins District office with input from the Rock Springs and Casper districts. Overall coordination of the project is the responsibility of the Wyoming State Office. No other RAMPs would be developed.

In addition to the existing eight ORV designated areas, there would be an open area at the Poison Spider bentonite pit. Three segments (696

acres) of the Oregon-Mormon Trail would be closed to ORV use, rather than the present five. Three segments of the Bozeman Trail (960 acres) would be closed. ORV travel on the remaining public lands in PRRA would be limited to existing or designated roads and trails, except that ORV travel would be permitted in other areas to perform necessary tasks. Designations would be as follows: open areas, 200 acres; limited areas, 1,396,967 acres; and closed areas, 2,286 acres.

The PRRA would not develop environmental education area plans with the Natrona County school system; however, use of the areas would continue through special recreation use permits.

The VRM System would be applied to specific land use proposals.

Soil, Water, and Air

Watershed Protection

Surface protection decisions as identified for Alternative 1 would be applied case by case on a site-specific basis. The Platte River restriction would be modified to allow for sand and gravel extraction.

The Bates Hole Management Plan would be developed on the basis of data obtained through the special study as discussed in the Bates Hole preliminary plan. The plan would be implemented with minimum expenditure.

Fragile areas and sensitive drainages would be reveiwed to determine the need for special management or site-specific protective measures. Where a need for site-specific protection was identified, measures would be taken to mitigate the affects of surface development.

Progress would continue toward completion and publication of the order 3 soils survey.

The level II water inventory would continue as scheduled in the short term on 9 streams and on 13 streams in the long term.

The inventory of water sources on public land would be continued.

Wildlife

Under Alternative 3, only the most promising HMP proposals that have been identified in MFPs during the past ten years would be implemented. Wildlife management would be focused on one endangered species, bald eagles through the Jackson Canyon ACEC/HMP; two wetlands HMPs already implemented and one new wetlands HMP; and three riparian HMP areas. These wetland and riparian HMPs would address approximately half the wetlands and riparian areas showing fair to excellent potential for improvement. No proposals for big game HMPs would be implemented.

Specific management actions and habitat improvements that have been identified for each HMP under this alternative are described in the following paragraphs.

For the Table Mountain Wildlife Unit we would try to acquire 20 acres through and exchange. For the Table Mountain and Springer/Bump-Sullivan units, we would construct islands in reservoirs, construct goose nest structures on islands and on reservoir shores, fence and cultivate shelterbelts, seed native grasses in shelterbelts and in pastures, mow cattails and bullrushes, control noxious weeds, and control muskrats, jackrabbits, and prairie dogs. Vehicle traffic would be restricted during nesting and hunting seasons, and surface development would be prohibited except for wildlife projects. We would monitor duck, goose, and pheasant nesting and recreation use.

For the Rawhide Wildlife Unit, we would construct goose nest structures on islands and river banks, mow cattails and bullrushes, control noxious weeds, control muskrats, and construct parking areas and a canoe launch area.

In the Jackson Canyon ACEC/HMP, we would control pine beetle infestations through a more active forest management program, designate bald eagle roosts as priority full suppression areas for wildfire control, evaluate whether or not oil and gas leases should be renewed, and incorporate fire suppression as part of the HMP. We also would install signs and road closures and monitor conflicts between recreation use and eagles.

For Bates Creek Reservoir HMP, we would obtain an easement of 3 miles, conduct prescribed burns of sagebrush, and monitor sage grouse strutting and winter use. We also would construct islands and monitor waterfowl use. For the Bates Creek Aquatic HMP, we would fence portions of the stream to exclude livestock, obtain a walk-in easement (¼ mile), and identify a primitive parking area and fence it to restrict vehicle traffic. We also would monitor fishing pressure and cooperate with Wyoming Game and Fish Department for stocking or stream improvement. For the Stinking Creek Aquatic HMP, we would construct an exclosure fence for monitoring purposes and transplant and manage beaver population.

Special Designations

The ACEC designations for the Red Wall and Pterodactyl Tracks areas would be eliminated. Existing management decisions would continue for those areas. A mineral withdrawal on 400 acres would replace the Pterodactyl Track ACEC to protect cultural resource values.

The Salt Creek ACEC management plan would be amended to provide the inventory and evaluation of historic oil and gas sites, structures, and townsites for eligibility for the National Register of Historic Places. The Salt Creek Oil Field would be established as a historic district. This designation would not interfere with oil and gas development.

The PRRA would actively participate in the implementation of the Salt Creek Drainage ACEC plan. Emphasis would be placed on the Salt Creek oil field until the plan was operating smoothly. Thereafter, emphasis would be placed on Smokey Gap and East Teapot Oil Fields.

The Jackson Canyon ACEC/HMP would be completed and implemented to maintain bald eagle habitat. Emphasis on pine beetle control would be increased during the short term. This would require forest management control of beetle-infested trees and thinning within roost areas.

The Muddy Mountain EEA natural area (675 acres) would be managed to allow for full forestry management to control pine beetle infestations.

The Casper Sand Dunes would be managed for watershed protection. If oil and gas production took place, the area would be developed under a plan that would provide for orderly development and protection of the fragile environment. ORV designation would be amended to allow travel on existing roads and trails only during the fall hunting season and only on designated roads and trails the rest of the year. Public access would be pursued only if public demand and landowner cooperation were evident. Grazing leases would be maintained.

Alternative 4: High Level Management

Cultural Resources

Under Alternative 4, the following cultural sites would be protected by prohibition of surface development: Six stage and Pony Express stations, Rawhide Buttes Mining District, Notches Dome Archeological District, Prospect (Ryan) Hill, Emigrant Gap, site AR-49-06-165 (48NA227), site AR-49-06-171, site AR-49-06-126 (48NA84), Rock Cairn Trail (South Big Horn Mountains), Spanish Diggings, and the Bozeman Trail segments. CRMPs would be written for these sites as necessary. A total of 23 sites (4,725 acres) would be protected.

A Class III inventory would be conducted on the stage and Pony Express station sites, the Rawhide Buttes mining district, and the Notches Dome archeologic district.

Cultural sites with potential for nomination to the National Register would be protected through prohibition of surface development and, when necessary, by stabilization and salvage.

Segments of the Oregon-Mormon Trail would be evaluated according to the BLM state "Guidelines for Evaluation of Historical Wagon Trails" and managed according to the pending Oregon-Mormon National Historic Trail RAMP. The Fort Laramie segments of the Oregon Trail would not be transferred to the National Park Service.

A data base would be developed for cultural resources through the use of a predictive model to establish areas with high, medium, and low probability for cultural sites. Continued Class III inventory would be limited to high and medium areas.

Energy and Minerals

Under Alternative 4, sand and gravel extraction would be permitted for the entire length of the North Platte River in the PRRA with the application of standard stipulations. This would make available 400 acres of sand and gravel with high commercial potential, 800 acres with moderate potential, and 11,600 acres with low potential.

Management of oil and gas, coal, and locatable minerals would be the same as that described for Alternative 1.

Fire Management

A Fire Management Plan fôr the entire resource area that would address suppression, prescribed burning, rehabilitation, and constraints on suppression methods recommended by other resource progress. The plan would establish priority suppression zones, limited suppression zones, and full suppression buffer zones.

Priority suppression zones would encompass approximately 85,000 acres, or 6% of the resource area, as described for Alternative 2.

All low value resource lands (currently classified in the NFYP as class I and II, and portion of class III) would be designated as limited suppression zones, regardless of parcel size. Approximately 85% of the resource area would be in the limited suppression zone under this alternative.

Full suppression standards would be retained within areas designated as buffer zones, and criteria would be established for fire containment near structures, power lines, facilities, and other high value resources within priority suppression zones.

To meet the guidelines set in the planning criteria, an additional 400 cooperative agreements would be sought with adjoining landowners. Several thousand acres of private and other ownership lands would be assessed for values at risk near public lands, and an additional 450,700 acres would be addressed in fire management prescriptions under this alternative.

Operational plans for prescribed fire management would be developed as described for Alternative 3, and a prescribed burning permit system would be proposed. An estimated total of 60 burn prescriptions would be written and implemented throughout the resource area for range, forestry, and wildlife related objectives.

Forest Management

Alternative 4 would emphasize forest management on about 8,000 acres of productive forestland and about 26,000 acres of nonproductive forestland.

Little Red Creek, Jackson Canyon, and Muddy Mountain areas would be managed for timber harvest at 750 mbf annual yield through 1990. This effort would involve intensive pine beetle management.

A detailed timber management plan would be developed for 17 areas (13,590 acres) to achieve an annual yield of 500 mbf from 1991 to 1995 and to manage for ponderosa pine and lodgepole pine composition. The areas that would be covered by the plan are Deer Creek, Negro Hill, Grave Springs, South Cottonwood-Notches Dome, Salt Canyon, Hartville-Sunrise, Squaw Mountain, Banner Mountain, Bessemer Mountain, Baldy Ridge, Esterbrook, Coal Mountain, Rattlesnake Mountain, Badwater, Sioux Pass, Pine Mountain, and Bates Creek-Sheep Creek.

Further practices would include cutting at least 50% of the lodgepole pine and ponderosa pine volume within stands, dwarf mistletoe management, artificial regeneration of stands if they did not regenerate naturally in three to five years, precommercial thinning of seedling sapling stands at ten-year intervals, and commercial thinning of pole stands at 20-year intervals.

Thinning would be done throughout the 675-acre Muddy Mountain EEA as needed. About 200 mbf per year would be harvested in five years as part of the PRRA's total allowable cut. The increased cut would be directed toward beetle control. After the five-year period, the annual cut in the EEA would be 25 mbf.

Forest stands would revert to an annual allowable cut of 120 mbf at the end of 15 years. The program would then be carried out at the maintenance level described for Alternative 2.

Grazing Management

Grazing Administration

This alternative would emphasize maximum livestock forage production with limited protection or enhancement of wildlife and watershed values. The overall objective would be to improve range condition to good or excellent in 26 "I" category allotments and 3 "M" category allotments and to make more forage available to livestock through project development in 36 "I" allotments and 15 "M" allotments. The remaining allotments would be monitored for overgrazing or downward trends.

Livestock AUMs would increase from 203,704 to 222,168, for a net increase of 18,464.

Management plans would be developed for the 29 allotments (1,080,400 acres) having a potential for increased range conditions.

Areas with management plans would be monitored intensively. The other "I" and "M" category

allotments would be monitored at a moderate level. Category "C" custodial allotments would receive a low level of supervision and monitoring.

All additional forage would be allocated to livestock.

Project Development

Over 20 years, 97 miles of fence would be built, 26,580 acres of brush control would be carried out, 135 reservoirs and 25 wells would be constructed, and 30 springs would be developed. The following projects would be completed over ten years: 39 miles of fence, 14,500 acres of brush control, 73 reservoirs, 11 wells, and 16 springs. Table 2-2 indicates the kinds and number of projects that would be implemented on "I" and "M" allotments under this alternative.

Wildlife stipulations would be negotiable on all projects. Allotment boundary and pasture fences would be built. Riparian zones might be fenced temporarily to improve livestock forage conditions. Sagebrush would be controlled by both burning and spraying.

Weed and Pest Control

Weed, grasshopper, and prairie dog control programs would be fully developed, with minimal wildlife and watershed restrictions. The BLM would do additional work where needed beyond the control carried out by the county weed control districts.

Stock Driveways

Supplemental grazing permits would be issued to make use of all forage not needed for trailing livestock.

Lands

Land Disposition

Under Alternative 4, 1,740 acres would be reserved for disposal under the R&PP Act. This would add two areas, Esterbrook townsite and land adjacent to the Converse County Park which were not previously identified. Of this, 400 acres could be considered for disposal by other methods after 1987.

The BLM would pursue exchanges in eight areas: Muddy Mountain, the North Platte River, Table Mountain, Red Wall, South Big Horns, Rattlesnake Range, Ryan Hill, and Alkali Slough. Other exchanges could be considered case by case.

Disposal of 102,700 acres by other means could be considered. Disposal of lands in RMUs 1 through 13 would not be restricted to exchange or public purpose uses.

Withdrawals

Withdrawals would be pursued on five areas: Muddy Mountain EEA, Table Mountain, Jackson Canyon, the Pterodactyl Tracks, and the Red Wall. One withdrawal on the North Platte River would be continued. These withdrawals would involve a total of 19,200 acres.

Corridors

Corridors would be managed as described for Alternative 3.

Access

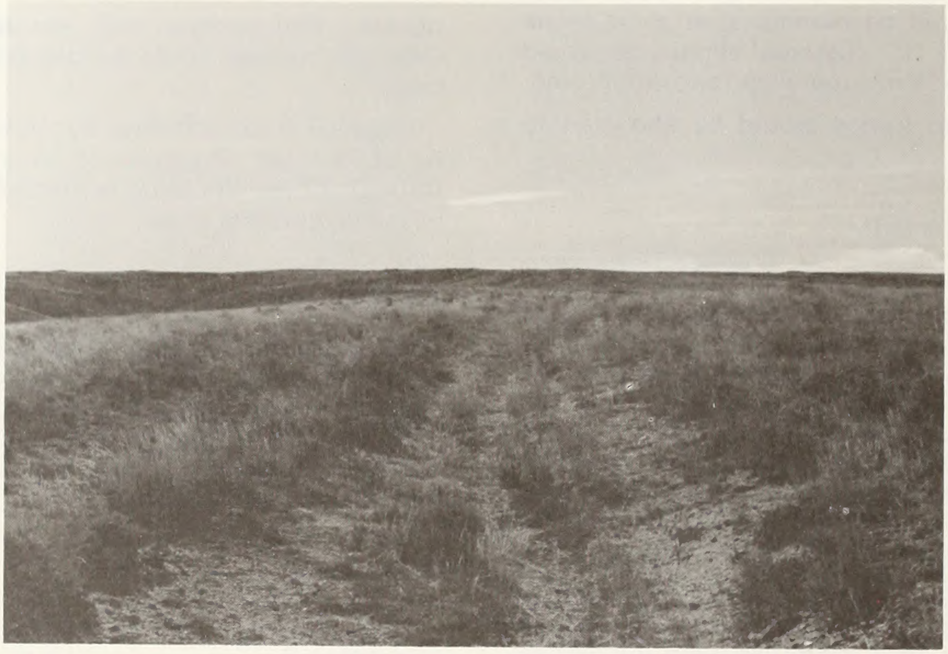
We would puruse acquisition of 17 easements or cooperative agreements for access over 38 miles of private land.

Recreation Management

In addition to the two existing RAMPs (Muddy Mountain and Goldeneye), we would prepare and implement RAMPs for 11 more areas (36,349 acres). The priority order would be as follows: The North Platte River, the Red Wall ACEC, Fremont Canyon, Buffalo Creek-Grave Springs, Deer Creek, LaPrele Creek, Wagonhound Gorge, School Section Mountain, Cottonwood Creek, Bessemer Mountain, and Casper Sand Dunes.

A day use and group camping area would be added at Muddy Mountain and an overnight camping area would be added at Goldeneye. Facilities in the remaining areas would be limited to support facilities. We would continue our cooperation with the Buffalo Resource Area in the management of the Middle Fork area. We would manage the Oregon-Mormon Trail in accordance with the Oregon-Mormon Pioneer National Historic Trail plan.

Priority of management and maintenance of the eight existing recreation sites would be as follows: Muddy Mountain, Goldeneye, Bessemer Bend Historic Site, Trapper's Route Canoe Trail, Oregon-Mormon Trail, Buffalo Creek Camp-



Oregon Trail ruts

ground, Graves Springs Campground, and Camel Hump Campground.

In addition to the eight existing designated areas, there would be a 200-acre open area at the poison Spider bentonite pit. Three segments (696 acres) of the Oregon-Mormon Trail would be closed to ORV use, rather than the present five. Three segments of the Bozeman Trail (960 acres) would be closed. ORV travel on the remaining public lands in the PRRA would be limited to existing or designated roadsand trails, except that ORV travel would be permitted to perform necessary tasks.

The PRRA would not develop environmental education area plans with the Natrona County school system; however, use of the areas would continue through special recreation use permits.

The VRM System would be applied to site-specific land use proposals.

Soil, Water, and Air

Site-specific surface protection stipulations would be applied case by case as described for Alternative 1. In addition, restrictions on surface development would be applied to public lands along the front range of the Laramie Mountains.

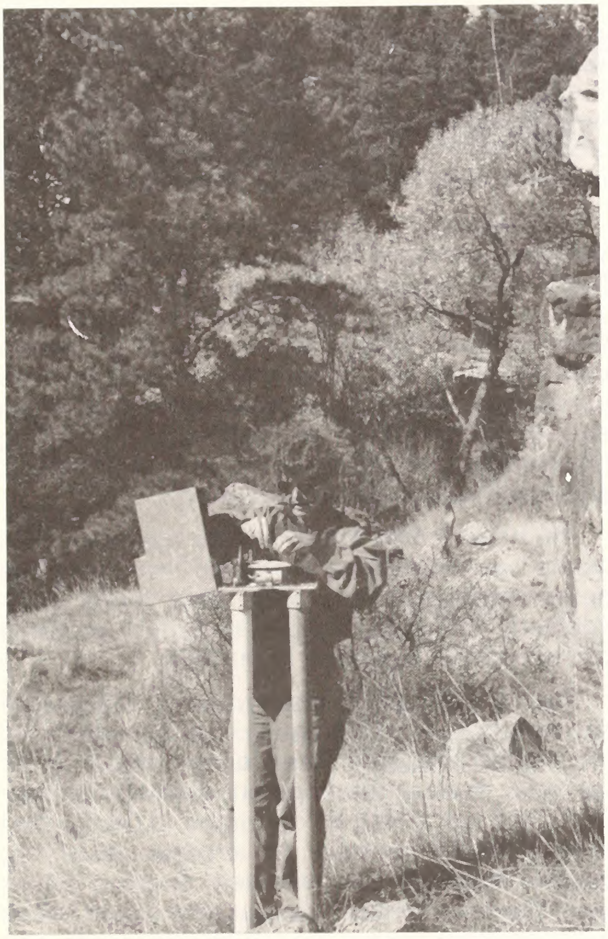
The Bates Hole Management Plan would be developed and implemented, and the projects identified through this activity plan would be constructed and maintained. Projects could include watershed and livestock manipulation or water detention structures.

Four fragile areas and 22 sensitive drainages would be reviewed to determine the need for special management or site-specific protection measures and protection would be provided where necessary. Where needs were identified, management plans would be developed and implemented. Structures deemed necessary would be constructed and maintained.

Progress would continue toward completion and publication of the order 3 soil survey in Natrona and Converse counties.

The level II water inventory would continue as scehduled in 9 streams in the short term and 13 streams in the long term. If data derived from this inventory should indicate a need for special management in areas other than those already identified, management plans would be developed and implemented.

Inventory of water sources on public land would be completed by 1985.



Wildlife

Alternative 4 would implement management on eight of the 16 areas that have been identified for habitat plans in the past 10 years. Eight HMP proposals would not be developed. Of these, five are for extensive areas of big game habitat which provide little opportunity for improvement. Three other HMP proposals for fisheries and riparian habitat each contain less than ½ mile of stream on public land and no legal access. Alternative 4 would focus management on the most promising HMP proposals.

Specific improvements and management actions that have been identified for each area are described in the following paragraphs.

For the Table Mountain Wildlife Unit we would try to acquire 20 acres through and exchange. For the Table Mountain and Springer/Bump-Sullivan units, we would construct islands in reservoirs, construct goose nest structures on islands and on reservoir shores, fence and cultivate shelterbelts, seed native grasses in shelterbelts and in pastures, mow cattails and bullrushes, control noxious weeds, and control muskrats, jackrabbits, and prairie dogs. Vehicle traffic would be restricted during nesting and hunting seasons, and surface development would be prohibited except for wildlife projects. We would monitor duck, goose, and pheasant nesting and recreation use.

For the Rawhide Wildlife Unit, we would construct goose nest structures on islands and river banks, mow cattails and bullrushes, control noxious weeds, control muskrats, and construct parking areas and a canoe launch area.

In the Jackson Canyon ACEC/HMP we would control pine beetle infestations through a more active forest management program, designate bald eagle roosts as priority full suppression areas for wildfire control, evaluate whether or not oil and gas leases should be renewed, and incorporate fire suppression as part of the HMP. We also would install signs and road closures and monitor conflicts between recreation use and eagles.

In the Medicine Bow HMP, improvements would include control of beaver populations where riparian vegetation has been destroyed, development of springs and seeps to provide year-round waters, temporary exclusion of livestock, as needed, from riparian areas, and identification of areas to establish cottonwood perch trees in bald eagle wintering habitat.

For Bates Creek Reservoir HMP, we would obtain an easement of 3 miles, conduct prescribed burns of sagebrush, and monitor sage grouse strutting and winter use. We also would construct islands and monitor waterfowl use. For the Bates Creek Aquatic HMP, we would fence portions of the stream to exclude livestock, obtain a walk-in easement (¼ mile), and identify a primitive parking area and fence it to restrict vehicle traffic. We also would monitor fishing pressure and cooperate with Wyoming Game and Fish Department for stocking or stream improvement.

For the Bolton Creek Aquatic HMP, we would construct an exclosure fence for monitoring purposes, manage beaver populations to raise the water table, and monitor wildlife use. For the Stinking Creek Aquatic HMP, we would construct an exclosure fence for monitoring purposes and transplant and manage beaver populations.

For the Upper Laramie River Aquatic HMP, we would try to obtain access (1 mile), construct a primitive parking area and fence it to restrict vehicle traffic beyond the parking area. We would also try to obtain a walking easement (½ mile), we would monitor fishing pressure, and cooprate with the Wyoming Game and Fish Department to identify the need for stocking fish or stream improvements.

The Teal Marsh and 22 Mile Reservoir HMPs need improvement of exclosure fences and monitoring of range condition and waterfowl use.

Special Designations

The Salt Creek ACEC Management Plan would be amended to provide for management of part of the ACEC as a historic district. Oil and gas sites, structures, and townsites would be inventoried and evaluated for eligibility for the National Register of Historic Places. The Salt Creek Oil Field would be established as a historic district. This designation would not interfere with oil and gas development. Interpretive facilities for the public would be provided in cooperation with the operators.

We would actively participate in the implementation of the Salt Creek Drainage ACEC management plan. Equal emphasis would be placed on the implementation of decisions on the following priority oil fields identified in the Salt Creek ACEC Managment Plan: East Teapot, South Salt Creek, Salt Creek, Smokey Gap, Shannon Pool, Sage Spring Creek, and Sherwood Unit Oil Field.

Activity or management plans for the Red Wall (8,700 acres), Jackson Canyon (3,600 acres), and the Pterodactyl Track (400 acres) ACECs would be developed and implemented. These areas would be withdrawn from mineral entry. A minimum of 13,800 acres would be affected.

ORV designations limiting travel to designated vehicle routes and trails would continue for the Red Wall and Jackson Canyon areas. In addition, Jackson Canyon ACEC would be closed to all vehicles from November 1 to March 31. Beetle control efforts and forest management in Jackson Canyon would be allowed in the roost areas and the buffer areas. The restriction prohibiting disturbance of bald eagles between November 1 and March 31 would be continued.

The natural area in the Muddy mountain EEA would continue to be protected from resource development activities other than forest management. Thinning and beetle control would be carried out as necessary in the EEA.

The Casper Sand Dunes would be designated as a natural area. Watershed protection would be the highest resource management objective for the area. Surface development would be prohibited. ORV use would be restricted to designated vehicle routes and trails. Oil and gas leases that expired would not be renewed. Grazing leases would be maintained. Public access would not be pursued, and access to designated roads and trails would be by landowner permission only.

Affected Environment

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CHAPTER 3: THE AFFECTED ENVIRONMENT

INTRODUCTION

This chapter contains a description of the existing physical, biological, and socioeconomic characteristics of the resource area that would be affected by resolution of the 13 issues presented in chapter 1. This description of the affected environment serves as a baseline for analyzing and determining the effects of the various alternatives on resources.

Much of the information presented here has been summarized from two sources, the PRRA unit resource analysis and management situation analysis. These two BLM reports contain detailed material that has not been duplicated in this RMP/EIS. They are available at the PRRA office in Casper.

CULTURAL RESOURCES

General

Management of cultural resources on federal lands is based in part upon a knowledge of the resource base itself: the type, numbers, and locations of sites. Three levels of cultural resource inventory are conducted in order to ascertain the density and distributions of sites within different environmental zones, and their significance. These inventory levels are described in the glossary. Important cultural sites in the PRRA are illustrated on map 4.

To date, complete surface inventories have been conducted on only about 2% (approximately 116,000 acres) of the public land in the resource area. Cultural resources inventory associated with oil and gas activities since the mid-1970s has accounted for the location of many sites. For the most part, that information forms the existing data base. Class III inventory conducted for oil and gas actions on private surface-federal minerals (split estate) lands has also contributed to the present total of 2,273 known sites in the PRRA.

Table 3-1 lists the distribution of known cultural resources in the PRRA by environmental zones. Distribution varies considerably according to environmental and topographic feature. Site distribution figures, which are approximate, were calculated from cultural resource reports and professional judgment. Sites in each zone are usually found in coordination with permanent water, ridgetops, and multiple vegetation resources.

TABLE 3-1

DISTRIBUTION OF PREHISTORIC AND HISTORIC SITES

Environmental Zone	Total	Prehistoric	Historic
Powder River Basin	1,139	840	299
Wind River Basin	355	279	76
Shirley Basin	300	210	90
Laramie Range	38	24	14
Hartville Uplift[1]	80	51	29
Denver Basin	361	163	198
Totals	**2,273**	**1,567**	**706**

[1] Data on this is somewhat skewed since Spanish Diggings is considered only **one** site, but covers 567 sections.

Of the 2,273 known sites in the PRRA, most were probably recorded as a result of on-site clearances related to mineral program actions. We cannot say precisely what percentage of these sites is on federal surface and what percentage on split estate lands, or how many may be potentially eligible for placement in the National Register of Historic Places.

Site density calculations cannot be accurately projected because precise data on Class III surveyed acreage are not complete. Very speculative estimates range from five to ten sites per section over the entire resource area.

Prehistoric Resources

Evidence of human occupation in the PRRA dates back some 12,000 years (Frison 1978). Evidence of these early occupations is manifested in campsites, animal kill sites, rock shelters, stone circles, fire pits, tool stone quarries, religious sites, special use areas for animal butchering and vegetal food processing, burials, and prehistoric trails. Table 3-2 lists several types of prehistoric sites that might be expected to occur on BLM lands in the PRRA.

TABLE 3-2
SITE TYPES BY CULTURAL CHRONOLOGY IN THE PLATTE RIVER RESOURCE AREA

Paleo-Indian (10,000-6000 B.C.)	Bison kills Lithic scatters Rock shelters Lithic quarries
Early Plains Archaic (6000-3000 B.C.)	Lithic scatters Tipi ring sites Hearths Lithic quarries Rock shelters
Middle Plains Archaic (3000-1000 B.C.)	Lithic scatters Hearths Tipi rings Lithic quarries Rock shelters
Late Plains Archaic (1000 B.C.-A.D. 500)	Bison kills Rock alignments Tipi rings Lithic scatters Hearths Cairns
Late Prehistoric (A.D. 500-1800)	Bison kills Tipi rings Rock alignments Prehistoric cairn trails Lithic scatters Lithic quarries Rock art Hearths
Early Historic (A.D. 1800-1880)	Bison kills Lithic scatters Hearths Lithic quarries Rock alignments Rock art Burials Battle sites Historic trails Trading posts Tipi rings Cribbed log structures
Late Historic (A.D. 1880-1930)	Homesteads Mining, oil and gas debris

Sometimes prehistoric sites are deeply stratified geologically in a subsurface context such as in rock shelters or large game kill sites, and contain bone and/or stone tools and debris associated with daily living activities. Often prehistoric sites in the PRRA are only surface concentrations of stone tools and flakes from tool-making with few or no other features. The latter sites are frequently of low visibility, not easily discernible except to a trained archeologist. Other sites, such as stone circles, are often easily recognized.

A total of 1,567 prehistoric sites have been located in the PRRA. This includes 663 in Natrona, 690 in Converse, and 214 in Platte and Goshen counties.

Historic Resources

Historic sites are abundant in the PRRA. Many sites can be directly related to the transportation routes, or historic emigrant trails, that became the avenues for exploration of the Western frontier and for the settlement of the West. To date, approximately 706 historic sites, including numerous scattered ranches and homesteads, have been located in the four counties in the resource area.

Besides emigrant trails or transportation routes, historic sites in the PRRA include military posts, stage and pony express stations, emigrant camps, battlefields, treaty sites, ranches and homesteads, oil fields and mining districts, bridges, river crossings, dams, and early townsites.

Two of the most famous of the historic trails traversing the area are the Oregon Trail and Bozeman Trail. The Oregon-Mormon Trail was the major overland migration route for settlers traveling from east to west. Some of the best-preserved Oregon Trail wagon ruts lie on public lands in Platte County.

The Oregon-Mormon Trail, during its heaviest use between 1840 and 1869, traversed a multitude of ecological and topographic settings ranging from riparian to prairie uplands. In the PRRA it generally followed the North Platte River from the Nebraska-Wyoming line before heading overland west of Casper. This singular route covers approximately 250 miles in the PRRA, but the mileage within the resource area is more than double that if all primary and secondary route variants and cutoffs both north and south of the river are considered. The last wagon train is reported to have crossed in 1912.

Fort Laramie National Monument, once an army post along the Oregon Trail, is administered by the National Park Service. It is one of only two historic facilities that the federal government

manages for interpretation and visitor use in the PRRA.

The Bozeman Trail, which runs through Converse County, also contains several segments with clearly defined and significant ruts dating from 1866-68. At that time, the trail was used as a short cut through the Powder River Basin (Indian country) to the gold fields in Montana. Three BLM-administered sections of the Bozeman Trail in Converse County were nominated to the National Register in 1983. Other sites may yet be determined eligible for listing once they have been fully examined.

Bessemer Bend, a major crossing of the North Platte River for pioneers using the Oregon-Mormon trail, contains interpretive facilities consisting of information signs and a ramada in a picnic area. It is the only historic site in the PRRA that the BLM interprets for the public. The facilities were developed during the nation's bicentennial celebration in 1976. There are no other historic sites with pending National Register designation in the PRRA.

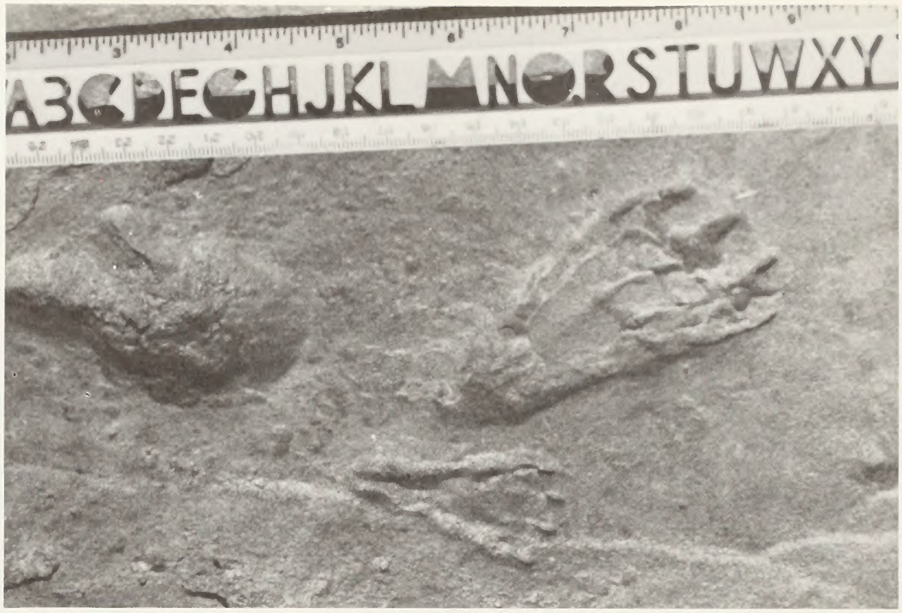
The Salt Creek Oil Field in northern Natrona, one of the oldest oil fields in Wyoming, is still a producing field. It contains the remains of several historic townsites associated with the early development of the oil and gas industry in Wyoming.

Historic debris scatters are prevalent throughout the area. Homestead remains are the second most common type of historic site in the resource area. A study of homesteading in the Powder River Basin begun in 1983 will soon provide data on land use patterns and types of homestead remains, and it will establish criteria for assessing homestead site integrity for the National Register of Historic Places. In addition, environmental assessment work being done in conjunction with the evaluation of Powder River coal is currently providing data on known sites.

Paleontological Resources

The Pterodactyl Track area near Alcova was designated an ACEC on January 15, 1980. Map 21 shows the boundary of this area.

Two separate sites in the designated ACEC have been identified as possessing significant paleontological values. Both sites are located



within the Sundance formation, which was laid down between 140 million and 135 million years ago. The formation was exposed through geologic forces.

Unique values associated with the site include rare pterosaur tracks. Only four other locations have been discovered in the world. They are quite small, and the tracks have been completely removed from two sites. The tracks in the PRRA are larger than any others found in North America and suggest a wing span of 10 feet. If the sites were excavated, potential exists for the discovery of pterosaur bones or teeth.

GEOLOGY

The PRRA lies on the border between two geologic provinces; the Great Plains and the Rocky Mountains. The geology is dominated by portions of four basins separated by uplifted areas. The basins are the Wind River Basin, which trends northwesterly across the southwest corner of Natrona County; the Powder River Basin in northeastern Natrona and northern Converse counties; the Shirley Basin in southern Natrona County; and the Denver Basin, which is in the southeastern corner of Platte County and in all of Goshen County but the northwest corner. Thicknesses of up to 50,000 feet of sediments are present.

Uplifted areas are the Big Horn Mountains in northwestern Natrona County, the Laramie Range in southern Natrona and Converse counties and western Platte County, the Sweetwater Uplift (Rattlesnake Range) in southwest Natrona County, the Casper Arch in central Natrona County, and the Hartville Uplift in southeastern Converse, northern Platte, and northwestern Goshen counties. Overthrusting of these ranges and the Casper Arch is known and is under intense study because of the possible oil and gas potential.

Rocks of every age except Silurian can be found on the surface within the resource area. Precambrian rocks are exposed in the cores of the uplifted areas. Rocks ranging in age from Cambrian to Jurassic are found around the edges of uplifted areas. Cretaceous rocks are found on the basin edges and along the Casper Arch. Cretaceous rocks are exposed in the Goshen Hole area of the Denver Basin. The basins themselves contain tertiary rocks from Paleocene to Pliocene in age.

TOPOGRAPHY

Topography in the PRRA varies from rolling hills and flat valley bottoms to mountainous terrain and steep canyons. The Laramie Mountains, which trend northerly and southerly, provide a distinct visual southern boundary for most of the resource area. Elevations range from 4,400 feet to more than 10,000 feet at Laramie Peak.

The south end of the Big Horn Mountain range extends into the northwest corner of Natrona County. The elevation here rises from around 5,200 feet to a high point of 9,120 feet.

The Rattlesnake Hills run through the southwest portion of Natrona County. Garfield Peak is the most dominant feature; it rises to 8,244 feet. Elevations in the Rattlesnake Range within the resource area generally are 7,700 feet or less. Pine Ridge is an escarpment that rises about 500 feet in the northeast corner of Natrona County and the northwest portion of Converse County. Pine Ridge changes from prominent ridge lines on the north end to break type topography in the south.

The North Platte River flows east through all four counties in the resource area. Elevation along the river ranges from 5,680 feet at the west end to 4,020 on the east end of the resource area.

An area of active sand dunes lies north of the North Platte River valley in Natrona and Converse counties. Elevations in this area of roughly 200 square miles range from 5,000 to 5,600 feet. Slopes generally are less than 10%.

ENERGY AND MINERALS

Leasable Minerals

Oil and Gas

Wyoming is a significant oil-producing state. It ranked fifth in production in the nation in 1981. Production in the PRRA accounted for about 12% of the oil and about 4% of the natural gas produced in Wyoming in 1981. Oil and gas fields in the PRRA are shown on map 5. Fields range from the very old, such as the Salt Creek Oil field (early 1900s) to recent discoveries. Some of the older oil fields, such as Salt Creek and the Big Muddy, are in secondary and tertiary stages of recovery.

Nearly all the oil and gas extracted in the PRRA is produced in Natrona and Converse counties. Less than 1% of the crude oil is extracted from Goshen and Platte counties and no gas was produced in these counties in 1981. Table 3-3 presents the oil and gas produced in the resource area from 1977 to 1981.

TABLE 3-3

OIL AND GAS PRODUCTION FROM 1977 to 1981 BY COUNTY IN THE PLATTE RIVER RESOURCE AREA

County	Oil (barrels)	Gas (thousand cubic feet)	Year
Converse	7,712,210	14,931,792	1977
Natrona	8,116,227	5,259,302	
Goshen	433	0	
Platte	4,144	0	
Converse	7,609,226	15,556,431	1978
Natrona	7,717,967	7,992,213	
Goshen	7,044	0	
Platte	0	0	
Converse	7,002,401	13,791,617	1979
Natrona	7,538,813	8,199,305	
Goshen	5,589	0	
Platte	0	0	
Converse	7,095,507	13,995,581	1980
Natrona	6,967,032	6,434,241	
Goshen	2,288	0	
Platte	0	0	
Converse	6,588,690	12,189,486	1981
Natrona	6,897,806	5,988,034	
Goshen	1,431	0	
Platte	0	0	

SOURCE: 1982 Wyoming Mineral Yearbook

The resource area contributed 15% of the state's total valuation for crude oil in 1981, (about $311 million) and about 6% of the state's total natural gas valuation (about $45 million).

At the county level, the significance of oil and gas in Natrona and Converse counties is dramatic. In Natrona County, 53% of the assessed valuation in 1981 was attributed to minerals. In Converse County, crude oil accounted for 59% of the total valuation in 1981 and gas accounted for another 8%.

All services necessary for the extraction of oil and gas resources (seismograph, drilling, transportation, well maintenance services, site construction services) are available in Casper, and to some extent in Douglas and Glenrock. Thousands of jobs are tied directly and indirectly to this industry.

The availability of public lands and minerals for exploration and development of oil and gas has been important in the development of the oil and gas industry in the PRRA. For example, the United States owns 79% of the mineral estate in Natrona County and 50% of the mineral estate in Converse County.

Leasing

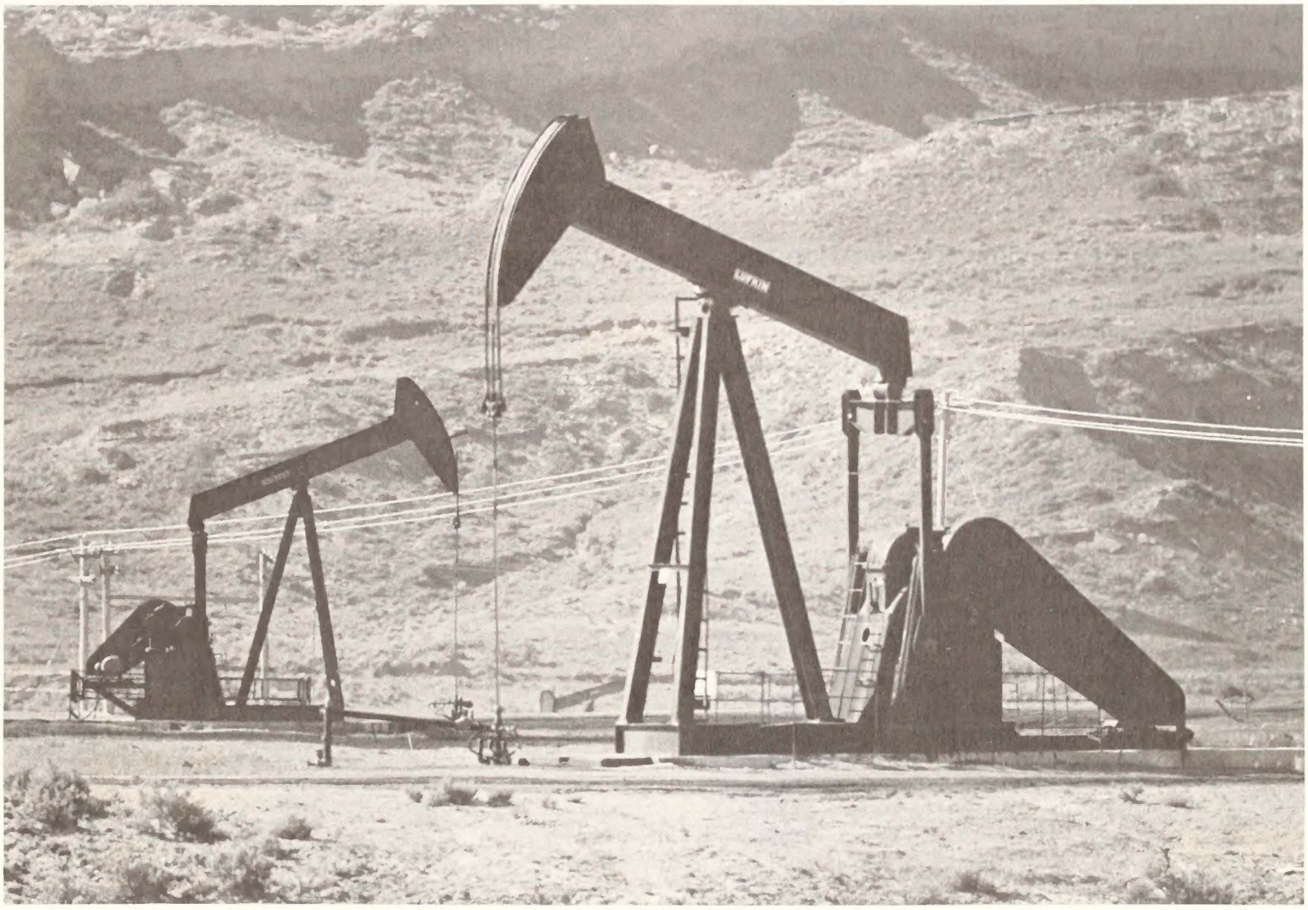
At present all but about 12,000 acres of the federal mineral estate in the PRRA administered by the BLM is open for oil and gas leasing. Oil and gas leasing was excluded from the 12,000 acres as a result of land use planning. About 15,000 acres is not available because of withdrawals. There may be other public mineral estates that are not leased for oil and gas; however, surface management is the responsibility of the Forest Service, the Federal Aviation Administration (FAA), the Bureau of Reclamation, or the Fish and Wildlife Service. The BLM would lease in those areas only on approval from the surface managing agencies.

The federal mineral estate in the PRRA is about 5 million acres; the unleased area is less than 1% of the total (see map 3).

There are standard stipulations that may be applied to oil and gas leases issued in Wyoming. They are presented in appendix C. Blanket application of the stipulations does not occur. When it is indicated that a stipulation applies to a specific lease, that means the situation actually exists within mitigating stipulations that may apply in specific all or a portion of the boundaries of that lease.

Two EAs have been prepared to address oil and gas development in the PRRA—the Platte River and Southern Big Horn Mountain oil and gas EAs (USDI, BLM 1982b; 1979). These documents evaluated specific land use planning decisions that constrain oil and gas development. Those decisions are described in appendix B. The two EAs also prescribed certain mitigating stipulations that may apply in specific areas. A summary of the two EAs is presented in appendix G.

It is important to note that oil and gas development is constrained by valid land management decisions developed through public input and prior planning. The decisions were not developed to apply specifically to oil and gas operations; rather, the decisions apply to all activities that involve surface disturbance via construction or placement of facilities. For example, a road across public land that is unrelated to oil and gas is subject to the same planning decisions as one into an oil field. In every case, these decisions are applied at the time a project proposal is made.



Most decisions can be waived by the district manager if the environmental effects of the proposal are acceptable or can be mitigated.

The unique and significant difference, relative to oil and gas, is that the effect of land use planning decisions is multiplied because some federal oil and gas estates are beneath private surface. Nonetheless, the BLM intends to manage the federal oil and gas estate without causing undue harmful effects to surface resources.

Cultural map 4; recreation map 13; watershed maps 15, 16, and 17; and Wildlife maps 18, 19, and 20 define areas where oil and gas operations are not permitted or are restricted in some manner.

Rehabilitation of disturbed surface is required after a well is drilled. If the well is producing, rehabilitation is confined to areas not needed for normal on-site well operation. If the well is abandoned, all disturbed surface is rehabilitated.

Rehabilitation includes recontouring well sites and access roads and reestablishing vegetation. Rehabilitation procedures are prescribed in the BLM Manual, section 3109. Procedures are adjusted as necessary by specific location.

Development

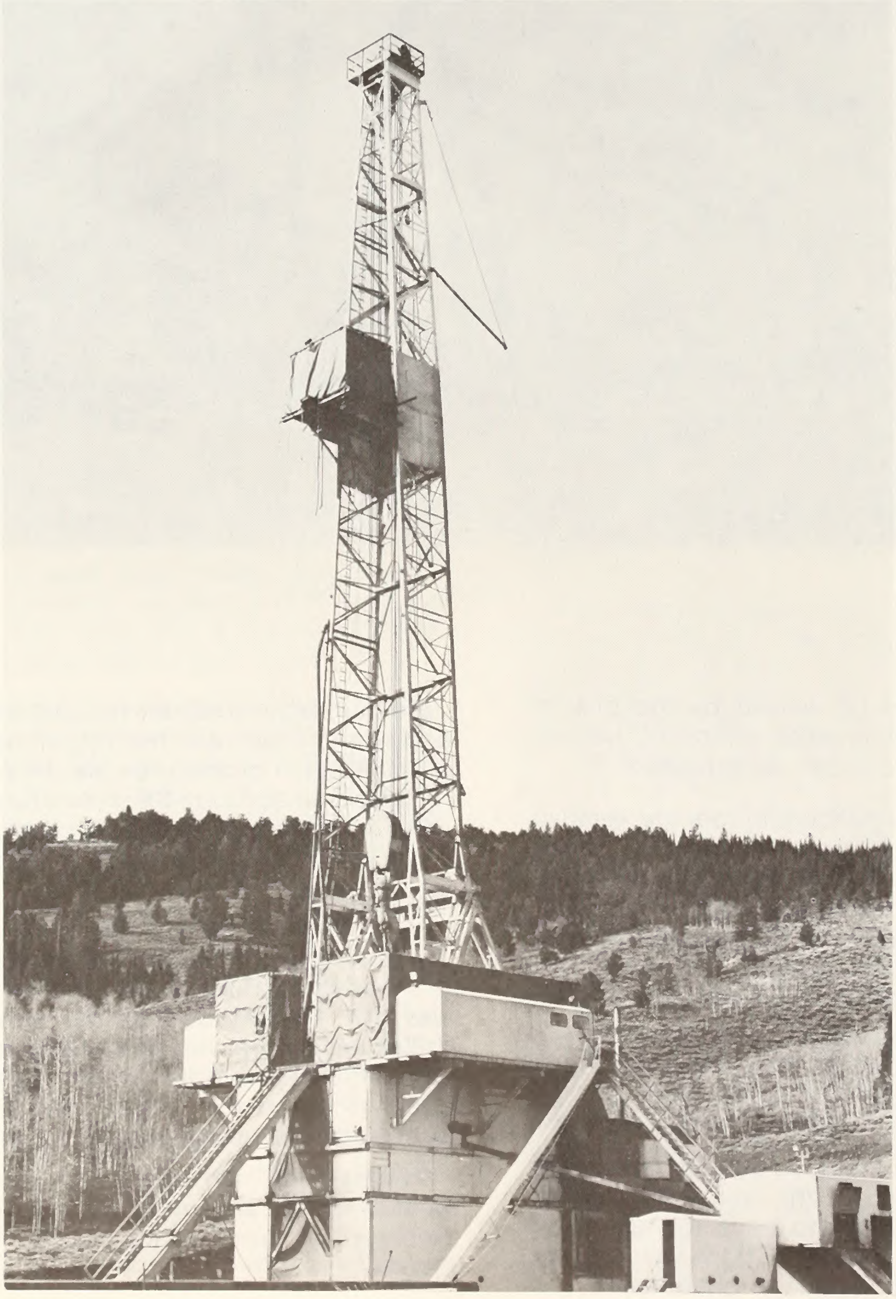
The annual number of oil and gas wells drilled in the resource area for the period 1970 to 1979 was 214. The average annual number of wells drilled on federal mineral estate was 166. The actual increase in drilling from 1978 to 1981 was about 18%. Activity dropped dramatically in 1982 but was on the upswing again by late 1983.

The average rate of success for oil and gas wells between 1970 and 1979 was 61% for Natrona County, 75% for Converse County, 8% for Platte County, and 2% for Goshen County. This high success rate in Natrona and Converse counties is largely due to field development wells drilled within the limits of known producing fields. In actuality, exploration (wildcat) wells have a much lower success rate, perhaps one in seven or lower.

Production

Historically, oil production has been dropping for several years in the resource area; production in 1975 was 20.1 million barrels; in 1981 it was about 14 million barrels.

Gas production increased from 18.7 billion cubic feet in 1975 to 23.5 billion cubic feet in 1978. Production in 1981 dropped to 18 billion cubic feet. Geophysical exploration and drilling have been increasing in the resource area, but future oil production is expected to decrease. Conversely, an increase in gas production is expected. The



predictions are supported by mineral production estimates (Wyo. DEPAD 1982). Table 3-4 presents future production estimates.

TABLE 3-4

MINERAL PRODUCTION ESTIMATES BY COUNTY

County	Oil (barrels)	Gas (thousand cubic feet)	Year
Converse	5,000,000	13,000,000	1982
Natrona	6,000,000	6,000,000	
Goshen	2,000	0	
Platte	0	0	
Converse	5,000,000	15,000,000	1983
Natrona	5,000,000	8,000,000	
Goshen	2,000	0	
Platte	0	0	
Converse	4,500,000	16,000,000	1984
Natrona	4,500,000	9,000,000	
Goshen	2,000	0	
Platte	0	0	
Converse	4,000,000	18,000,000	1985
Natrona	4,000,000	12,000,000	
Goshen	2,000	0	
Platte	0	0	
Converse	3,500,000	19,000,000	1986
Natrona	4,000,000	12,000,000	
Goshen	2,000	0	
Platte	0	0	

It is difficult to predict the location of future oil and gas development or the intensity of development. There is no doubt that the most easily discovered oil and gas fields in the resource area have been developed. Evaluating and rating areas in terms of oil and gas potential is extremely complex and is subject to a wide range of professional opinion.

The oil and gas industry is constantly gathering new data. New techniques allow for more detailed evaluation at deeper depths. Thus, what was considered poor or no potential, for oil and gas a few years ago may have significant potential a few years hence.

The system outlined below was used in an attempt to define the oil and gas potential in the PRRA so that the effects of planning decisions on the oil and gas resource can be evaluated. The system was derived from the following sources.

Geologic cross-sections and stratigraphic column

The mineral resource map of Wyoming (Wyo. Geol. Surv. 1979)

The oil and gas potential map by Barlow and Haun (1978)

A BLM oil and gas map that defines all known producing oil and gas fields as of May 30, 1983.

Ratings for each RMU, which were made by various oil companies at the request of the Rocky Mountain Oil and Gas Association. The ratings are available for review at the PRRA office in Casper.

The information from all these sources was consolidated, and the oil and gas potential was defined as shown on map 5. The map shows low, moderate, and high ranges of potential. The ranges are defined as follows:

Low: Very few geologic characteristics favorable for oil and gas accumulation are known to be present.

Moderate: Some geologic characteristics favorable for oil and gas accumulation are present.

High: Many geologic features are present to indicate the probable occurrence of oil and gas.

From the projections, the effect of present management decisions and the altneratives on the oil and gas resource can be addressed.

Coal

Northern Converse County, which lies within the Powder River Coal Region, is the only part of the resource area with reasonable economic potential for coal development within the scope and time frame of this plan.

The economic coal beds are found in the Fort Union and Wasatch formations of tertiary age. The thickness of the seams averages 8 to 20 feet, and the ratios of overburden to coal are relatively high. Descriptions of the coal-bearing formations may be found in a Geological Survey document (USDI, GS 1962) and in Matson and Pinchock (1977).

Faults and folds are rare and mainly confined to the west flank of the region along the edge of the Big Horn Mountains. The coal beds found in the region are generally thick and very wide. Detailed discussions concerning the quantity, quality, correlations, and locations of the coal beds may be found in several available publications (Glass 1976, 1980; Mont. Bur. Mines & Geol. 1973, 1980; Matson &Pinchock 1977; USDA, FS & USDI, BLM, var.).

Factors that make this coal less desirable than that found elsewhere in the region are its relatively high content of ash and sulfur and its average of 7,000 to 8,000 British thermal units (Btus) per pound, which is lower than the Btu content of other coal in the Powder River Basin in Wyoming and Montana. Details on the value of this coal resource can be found in the Dave Johnston and Antelope coal mine plans, which are on file at the Casper District office.

There is one existing coal mine in the resource area, and there is one mine under development. Both the existing mine and the one under development are part of NERCO Mining Co., a subsidiary of Pacific Power and Light Company. The existing mine, which is 15 miles north of Glenrock, produces coal for the Dave Johnston electric generation plant. Table 3-5 summarizes the federal coal lands involved in that operation. The table also shows coal production and values from 1977 to 1982.

A call for new coal resource information was initiated during this planning effort according to the procedures defined in 43 CFR 3420.1-2. No responses with coal resource information were received during the comment period.

The unsuitability criteria of the federal coal management program (43 CFR 3461) were applied to federal coal lands in 1983. Surface owner consultation was conducted and planning constraints were applied in that year. The federal coal land available to be considered for further leasing is identified on map 6. The results of the coal screening process are presented in appendix H. The total federal coal acceptable for further consideration in Converse County is 555 million tons on 30,597 acres.

TABLE 3-5
COAL MINE ACTIVITY IN CONVERSE COUNTY
(acreage in thousands of acres)

	Leases		PRLAs[a]			Recoverable Reserves as of 7/1/82
	No.	Acreage	No.	Acreage	Production	(tons)
Dave Johnston	6	9,562	11	20,864	3,700,000	58,000,000
Antelope Coal	1	4,877	4	5,073	5,600,000[b]	285,000,000
Total	7	14,439	15	25,937		

a. Preference right lease applications, which are held by Western Fuels Associates, Inc., Peabody Coal Company, and Dixie Natural Resources, Inc.

b. Scheduled production for 1987 is about 10,000,000 tons.

Production and Coal Value, 1977 through 1982

Year	Production (tons)	Value per Ton	Assessed Valuation
1977	3,091,393	$ 6.03	$ 10,510,736
1978	2,977,417	$ 6.73	$ 10,420,946
1979	3,004,854	$ 7.24	$ 13,071,115
1980	3,152,635	$ 8.32	$ 14,186,858
1981	3,219,001	$ 8.55	$ 18,670,206
1982	3,821,931	$10.06	$ 17,354,876

NOTE: With Antelope Coal Mine in northern Converse County coming into production in 1984, the total coal production is expected to increase by 8 to 10 million tons per year by 1990.

There are 11 PRLAs that cover 21,000 acres containing 807 million tons of coal. The PRLAs, which are in four groups, are shown on map 6. PRLAs are discussed in appendix H.

There are 13 existing coal leases covering about 17,000 acres and containing about 356 million tons of coal. All leases are in Northern Converse County (see map 6).

The coal-bearing areas of Natrona County include some relatively unexplored portions of the Wind River and Powder River coal basins. In the Wind River Basin portion of the county, minable coals occur in the Upper Cretaceous Mesaverde Formation. These coals are reportedly up to 9.8 feet thick, but they average closer to 4 feet thick. A large portion of the coal bearing rock in this area, however, is deeply buried.

All the coal in Natrona County are reportedly of subbituminous rank with heat values commonly between 8,000 and 8,600 Btus per pound. The few published coal analyses from Natrona County suggest that ash content is quite variable, that sulfur content averages less than 1%, and that moisture content is usually in the low 20s on an as-received basis.

Natrona County is underlain by at least 192 million tons of coal. However, this estimate is extremely conservative since resources were not even estimated for half the county's coal-bearing area. Of the estimated resources, 157 million tons are defined on coals less than 5 feet thick and greater than 1,000 feet deep. Only the remaining 35 million tons of shallower, thicker coal resources are regarded as reserve base or potentially minable coal. Records show that less than 30,000 tons of coal were ever mined in the county and that all that tonnage came from small underground mines. Since the closure of the Swigart Mine in 1945, there has been no coal mining in Natrona County. At the present time, resumption of coal mining is not expected (Geolog. Surv. of Wyo. 1980).

Trona

The only known commercial trona (sodium sulfate) deposit in the resource area is northwest of the town of Natrona. About 3,000 tons per year are produced for use as a livestock feed additive. This deposit occurs as a lens in the Cody Formation of Cretaceous age.

Salable Minerals

Sand and Gravel

Deposits of sand and gravel are scattered throughout the resource area but occur principally along the North Platte River and the major and minor tributaries in the area.

Sand and gravel produced in the resource area in 1982 came primarily from the North Platte River terraces, as follows: 732,650 tons from Natrona County, 166,865 tons from Converse County, 31,000 tons from Platte County, and 48,000 tons from Goshen County.

Construction aggregate is composed of sand and gravel or crushed limestone. It makes up the bulk of portland cement concrete and bituminous pavements, which are used in roads, streets, and driveways. Houses usually have concrete basements or concrete slabs, and all buildings and factories are made of concrete to a greater or lesser extent. These aggregates are also used under all pavements and for bedding water and sewer lines. Most cities, communities, and industries use large quantities of aggregates.

As local supplies become exhausted, sources farther away must be used. This greatly increases cost and adds to the truck traffic with accompanying noise and air pollution.

The 732,650 tons of sand and gravel produced in Natrona County in 1982 was used principally in Casper. At an average delivered price of $5.00 per ton, the value of this material was $3,663,250.

The reserves of sand and gravel are very large along the river on both private and federal mineral estate. At present, sand and gravel extraction from federal mineral estate is prohibited within ¼ mile of the North Platte River. This eliminates about 12,800 acres that contain gravel. Map 6 defines sand and gravel deposits in the PRRA.

Federal sand and gravel sources on the public land are significant in meeting the needs of local governmental entities and private companies.

Scoria

Commercial deposits of scoria are found in the coal areas of the Powder River Basin. Scoria is used for road surfacing in areas where it occurs. It is also used for decorating rock and landscaping.

Limestone, Shale, and Sandstone

Crushed dolomite (limestone) is produced just north of Guernsey and is used for railroad ballast, road construction, and similar uses. A large limestone quarry south of Glenrock used primarily for road construction is operated by the Wyoming Highway Department.

Sandstone and shale are crushed periodically throughout the resource area for use in road construction.

Moss Rock and Flagstone

The BLM maintains four common use areas where moss rock and flagstone can be gathered by permit. The highest quality and largest amount of moss rock is found in two areas north of the Powder River, the Lester Road and Notches Dome, which are common use areas. Alcova and Bates Hole are the other common use areas.

High quality stone is becoming hard to find. The area from Notches Dome to Buffalo Creek has the greater potential for sales of 10 tons or more. Potential for smaller amounts exists around Pine Mountain, along Immigrant Ridge, on the west flank of the Laramie Range, and on scattered sandstone ridges throughout the resource area.

Table 3-6 lists various formations and the types of minerals being produced from those formations.

Locatable Minerals

Areas where claims have been filed for locatable minerals are defined on map 7.

Uranium

The Powder River Basin, which extends south into northern Converse County, contains a major

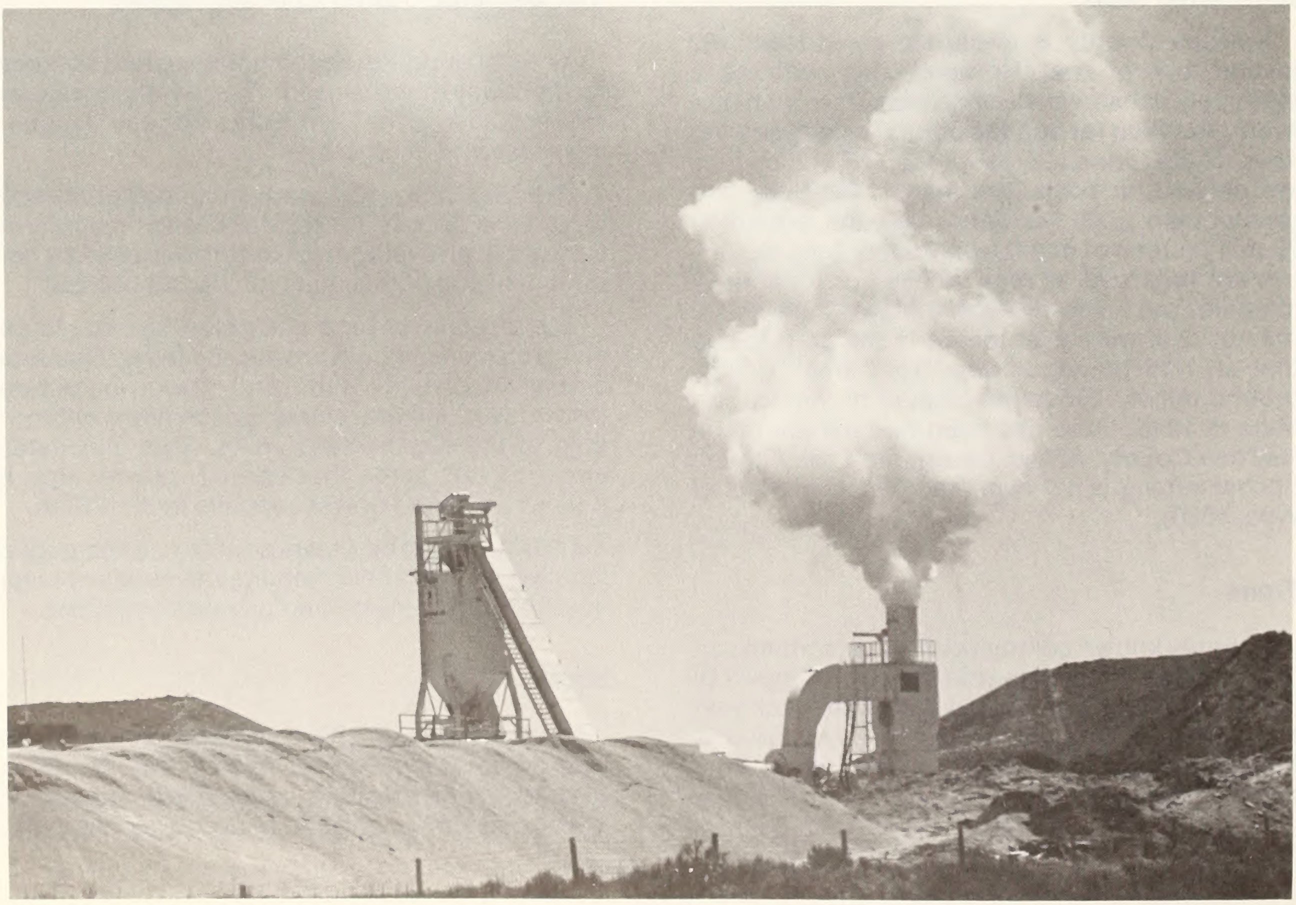


TABLE 3-6
FORMATIONS IN THE PLATTE RIVER RESOURCE AREA
THAT CONTAIN MINERALS

Resource Value	Rock Formation	Time Period	Age in Millions of Years	Mining Activity	Mineral Potential
Oil and Gas	White River	Oligocene	22.5 - 37.5		
	Fort Union, 2 zones	Upper Paleocene	54 - 65	production	high
	Lance Formation, 2 zones	Upper Cretaceous	65 - 136	production	high
	Mesaverde, 2 zones	Upper Cretaceous		production	high
	Cody and Lewis	Upper Cretaceous		production	high
	Niobrara	Upper Cretaceous		production	high
	Frontier	Upper Cretaceous		production	high
	Mowry	Lower Cretaceous			
	Muddy	Lower Cretaceous		production	high
	Cloverly	Lower Cretaceous		production	high
	Morrison	Jurrassic	136 - 190	production	high
	Sundance	Jurrassic		production	high
	Chugwater	Triassic	190 - 225		
	Tensleep	Permian	225 - 280	production	high
	Phosphoria	Permian			
	Goose Egg	Permian			
	Amsden	Pennsylvanian	280 - 320		
Coal	Wasatch	Eocene	37.5 - 53.5	production	high
	Fort Union	Paleocene	53.5 - 65	production	high
	Lance	Upper Cretaceous	65 - 80	production	high
Uranium	Wasatch	Eocene	37.5 - 53.5	production	high
	Wind River	Eocene	37.5 - 53.5	production	
Bentonite	Thermopolis	Lower Cretaceous		production	high
	Mowry	Lower Cretaceous			
	Frontier	Upper Cretaceous			
	Cody	Upper Cretaceous			
	Steele				
Sand and Gravel	Unconsolidated	Holocene and Pleistocene	0 - 2	production	high
Moss rock, flagstone	Various	Tertiary to Precambrain	20 - 20,000	production	high
Limestone	Madison	Mississippian	320 - 345	production	moderate
	Guernsey	Devonian	345 - 395	production	moderate
Trona	Cody	Cretaceous	65 - 136	production	low
Silver	Igneous-metamorphic	Tertiary or Pre-Cambrain	20 to 2,000		low
Copper, Iron	Igneous-metamorphic	Tertiary or Pre-Cambrian	2,000 to 20	production and exploration	low
Feldspar, Jade	Igneous-metamorphic	Tertiary or Pre-Cambrian	20 to 2,000	exploration and production	low low

uranium reserve. Several mines and mills were in operation in the 1970s. At present, there is only one active uranium operation and mill. Both surface and underground mining methods are being used. The north end of the Gas Hills District in Natrona County, near the north end of the Rattlesnake Range, contains two active surface mines and one mill.

At this time the uranium industry is going through a slump. Some mines have been forced to limit operations or shut down completely. There are about 27,000 claims for uranium in Converse and Natrona counties, and they cover about 280,000 acres.

No new claims for uranium have been filed, and the only exploration currently being conducted is assessment work on existing claims. Table 3-7 shows uranium production and values for 1977 through 1982. Map 7 identifies the general location of known uranium claims.

TABLE 3-7
PRODUCTION VALUE OF URANIUM
IN CONVERSE AND NATRONA COUNTIES

	Production (In tons)			
Year	Converse County	Natrona County	Value per Ton	Total Value
1977	1,377,090	60,508	$ 7.93	$11,400,152
1978	2,977,413	229,792	$10.02	$32,136,194
1979	1,898,391	474,255	$ 7.78	$18,459,185
1980	1,700,000	310,837	$15.11	$30,383,747
1981	1,300,000	201,971	$12.57	$14,019,835
1982	512,456	167,335	$16.89	$11,454,478

NOTE: Uranium is now in a depressed cycle. Future production and values have not been projected.

Bentonite

Most bentonite in the PRRA comes from the beds that lie along the Casper and Sweetwater arches and along the southeast side of the Big

Horns. Production of bentonite is currently 60,000 tons per year. This disturbs about 30 acres.

There are two areas of bentonite mining in the resource area. One is just south of Casper Mountain; the other is west of Midwest in northern Natrona County. Assessment work is done annually on about 1,500 mining claims, all in Natrona County. These claims represent about 30,000 acres. Table 3-8 shows bentonite production and values from 1977 through 1982. Map 7 shows the location of known bentonite claims.

TABLE 3-8

PRODUCTION AND VALUE OF BENTONITE IN THE PLATTE RIVER RESOURCE AREA

Year	Production (tons)	Value per Ton	Assessed Valuation
1977	36,834	$ 2.01	$ 74,381
1978	84,671	$ 2.22	$187,633
1979	50,898	$ 3.04	$154,729
1980	18,178	$ 2.90	$ 52,695
1981	75,075	$ 4.06	$304,835
1982	55,070	$ 4.07	$224,282

NOTE: Bentonite production in Natrona County is expected to stabilize by 1990 at about 100,000 tons per year.

Iron

The only known commercial iron ore in the area is north of Guernsey along the Hartville Uplift. The mine and mill produced about 500,000 tons of iron ore a year from 1964 to 1982. The mine was abandoned in 1982. The mill was placed in standby status in 1982.

Mining claims on high calcium limestone deposits in Platte County are held for potential use in the sugar beet industry. A large marble quarry in the Laramie Mountains west of Wheatland produces marble and limestone for a national market.

Other Locatable Minerals

The resource area contains small, subeconomic deposits of minerals. Most of them are in the Laramie Range or in the Hartville Uplift; some are in the Big Horn Mountains, the Wind River Basin, and the Rattlesnake Range. Although none have been produced in significant quantities, some potential for future production does exist. Areas containing important locatable minerals are illustrated on map 8. The dollar value of miscellaneous minerals produced in Natrona County in 1982 was $753,431; for Converse County it was $104,862.

Pacer Corporation has operated a feldspar and beryl mine on Casper Mountain. The feldspar is used in ceramics and to make dentures. Although there has not been any recent production, claims are being maintained and production could occur in the future.

FIRE MANAGEMENT

There is an average of 8 to 12 wildfires per year in the PRRA. They range in size from isolated single trees to fires of several hundred acres or thousands of acres. They are caused mostly by lightning, but a few each year are caused by humans in a variety of ways such as fireworks, vehicles burning, or abandoned campfires. Size and behavior are entirely weather-related, regardless of cause. The predominant fuel types are grass/sagebrush and open pine stands.

The district has two engines with a 200-gallon water capacity and maintains a fire crew of seven seasonal employees at the Casper District office. In addition, a number of permanent employees are trained for firefighting. Because distances to most of the resource area are far enough to involve excessive travel time, this amount of equipment and personnel is not adequate to provide initial attack on all fires occurring on or threatening BLM lands and resources. This deficiency is alleviated somewhat through cooperation with county, state, and other federal agencies with fire suppression responsibilities and capabilities.

Much of the BLM-managed land is scattered and interspersed with land under other ownership, primarily private land.

The PRRA is managed for full suppression; that is, all fires are attacked and suppressed. Many fires occur in areas where firefighting is either extremely difficult or expensive, or both, or where the resource values do not warrant the expenses associated with normal suppression methods. Some of the fires have resulted in greater damage to the resources from suppression actions than from the fire itself. In many cases the fire might have been beneficial. For those reasons, limited suppression is being considered for many areas of the PRRA.

It has long been known that controlled fire can be used as a management tool for various resource management objectives. To date, prescribed burning has not been used to its full potential.

The BLM currently uses fire for disposal of timber harvest slash and for sagebrush control on two AMPs. The ranching community in recent years has expressed a great deal of interest in the use of fire to improve range condition or increase forage production.

VEGETATION

The vegetation of the PRRA varies widely with varying soil types, topography, and moisture conditions. The predominant vegetation types range from sagebrush-grassland in the western part of the resource area to almost pure grassland in the eastern part. As one moves east in the resource area the sagebrush becomes less dense, and grasses such as blue grama, buffalo grass, needle-and-thread, and the bluestems become more prominent. Saline soils within these zones produce greasewood, salt grass, western wheatgrass, and saltbush. Riparian areas are dominated by cottonwoods, willows, and boxelder. Some of the higher ridges contain mixed shrubs and/or ponderosa pine and juniper. Patches of coniferous forests are found in the mountainous areas.

Nine of the technical range site descriptions published by the Soil Conservation Service (SCS), U. S. Department of Agriculture, show common plant species found in different soils and precipitation zones in the resource area. These guides are as follows:

10"-14" Precipitation Zone, Northern Plains
15"-17" Precipitation Zone, Northern Plains
12"-14" Precipitation Zone, Southern Plains
5"-9" Precipitation Zone, Big Horn and Wind River Basin
10"-14" Precipitation Zone, High Plains Southeast
15"-19" Precipitation Zone, Foothills and Mountains Southeast
20" + Precipitation Zone, High Mountainous
15"-19" Precipitation Zone, North Rocky Mountains and North Rocky Mountains Foothills; Foothills and Mountains East

The major floristic elements and vegetation zones are described in *A Flora of Wyoming,* by C.L. Porter (1962).

The state of Wyoming publishes a list of noxious weeds. Some of the more common species requiring control measures are Russian knapweed, Canada thistle, and musk thistle. The environmental assessment of the Casper District's weed control program (USDI, BLM 1982a) contains a detailed account of existing weeds, methods of control, and the environmental effects of recommended control measures.

Several species of poisonous plants are scattered throughout the resource area. Some of the more common ones are locoweed, death camas, lupine, larkspur, and halogeton. Livestock occasionally can be poisoned by these plants, but problems ususally can be avoided if proper livestock management techniques are used.

There are no threatened or endangered plant species in the resource area.

FOREST MANAGEMENT

The PRRA contains approximatly 34,000 acres of forestland. Of that, about 8,000 acres are considered to be productive forestland. Most of these productive forestlands are in Natrona County. Two areas are in southern Converse County. All of the productive lands in Natrona County are south of Casper except Grave Springs, which is in the south Big Horn Mountains in northwest Natrona (see map 8 for location of forestlands).

Productive forest stands vary in age from 20 to 150 years and in size from 1 inch to 20 inches in diameter at breast height (dbh). Most stands are overmature timber for which there has been no intensive management, except for portions of the EEA forest demonstration area on Muddy Mountain.

The remaining forestlands consist of nonproductive lands or woodland areas for which little planning information is available.

Forest and woodland areas in the PRRA comprise about 2% of the resource area's vegetative cover. Commercial timberland in the PRRA is composed primarily of two species, ponderosa pine and lodgepole pine, with ponderosa pine predominant. Ponderosa pine is found at elevations ranging from 4,000 to 8,000 feet; lodgepole pine at 8,000 feet and higher. Elevational limitation within the resource area on public land is just above 8,000 feet. Other species found in resource area are Douglas-fir, subalpine fir, limber pine, Rocky Mountain juniper, and quaking aspen. These species account for minor volumes. Limber pine, Rocky Mountain juniper, and aspen are not normally used commercially.

Much of the forestland is on relatively small, isolated tracts without public access. Such tracts are difficult to manage. Most production is geared to satisfying the demand for posts and poles and fuelwood in the Casper area. Until 1983, only 25 mbf per year were sold to meet public demand. Sales were limited to the environmental education area on Muddy Mountain, south of Casper.

The harvest was increased to 500 mbf in 1983. The increase resulted from continuing mountain pine beetle depredation on Casper Mountain and Muddy Mountain, coupled with a strong fuelwood market in Casper.

GRAZING MANAGEMENT

Grazing Administration

The PRRA historically has been used by ranchers for grazing of cattle, sheep, and horses. Natrona County is one of the largest sheep producers in the state. In general, ranch units are family operated, but the trend is toward larger ranch units, fewer operators, and outside investor-owners. Livestock numbers are cyclic; they are affected by regional or national economic trends.

The Casper District, including the PRRA, is administered entirely under section 15 of the Taylor Grazing Act. The district was formed as a separate unit in 1956. Between 1934 and 1956, the grazing leases were administered from various locations including Cheyenne, Wyoming; Billings, Montana; and, Lander, Wyoming.

A total of 483 grazing allotments containing approximately 1.4 million acres of federal land in the PRRA are authorized for grazing use. Four hundred seven operators currently graze livestock in these allotments, with a total of 203,704 AUMs permitted.

All allotments have recently been placed in categories established by BLM range management policies: "I" (improve), "M" (maintenance), or "C" (custodial). Appendix D lists grazing data, acreage, AUMs, operator, and allotment category for each allotment in the PRRA.

Some factors used in the categorization process were estimated condition and trend, existing grazing systems, range suitability, production potential, wildlife habitat values, user conflicts, public controversy, land patterns and acreages, and range improvement needs.

Table 3-9 summarizes the allotments by operator, number, acres, and number of allotments in a particular category. Fourteen operators have allotments in more than one category.

TABLE 3-9

ALLOTMENT CATEGORIES IN THE PLATTE RIVER RESOURCE AREA

Category	Number of Operators	Federal Acres	Percentage of Public Land in this Category	Number of Allotments
I	37	727,387	52	70
M	57	420,233	32	100
C	313	223,577	15	313
Stock driveways		48,180	1	0
Total	**407**	**1,419,377**	**100**	**483**

Because of the large number of allotments and operators, only the "I" and "M" categories are discussed in detail here. Locations of the "I" and "M" allotments are indicated on map 9. There are 94 "I" and "M" allotments. The table in appendix E indicates the category, livestock use data, categorization data, and acres for each "I" and "M" allotment. Appendix E describes the three categories and the procedure and criteria used in determining those categories.

Several allotment boundaries extend beyond the boundaries of the PRRA. They are managed under cooperative management agreements with adjoining resource areas. For a summary of all areas administered by the PRRA, see table 3-10. Table 3-11 summarizes livestock use in the PRRA.

Sheep crossing the Platte River - Alcova in 1903

TABLE 3-10
ACREAGE AND GRAZING AUMS
ADMINISTERED BY THE PLATTE RIVER RESOURCE AREA
BY COUNTY

County	Acres	AUMs	Acres per AUM	Number of Operators
Natrona	1,065,780	144,435	7.38	117
Converse	137,614	25,851	5.32	95
Platte	80,012	13,039	6.14	102
Goshen	24,865	6,011	4.14	92
Albany[a]	6,099	989	6.17	--
Niobrara[a]	2,216	382	5.80	--
Carbon[a]	8,783	1,732	5.07	--
Washakie[a]	5,258	992	5.30	--
Johnson[a]	40,570	5,273	7.69	1
	1,371,197	198,704	6.9	407
Stock driveway (estimated acreage)	48,180	5,000		
Totals	1,419,377	203,704		

[a] Allotments in these counties are located in other resource areas but administered for grazing by the PRRA.

TABLE 3-11
LIVESTOCK USE IN THE PLATTE RIVER RESOURCE AREA

Kind of Livestock	Number of Leases	Percentage of Total
Cattle	334	82
Sheep	13	3
Cattle and Sheep	60	15
Total	407	100

Two allotments in the resource area are under AMPs, Bates Creek and Table Mountain. These two AMPs cover 36,000 acres and account for only a small percentage of the acreage and AUMs in the PRRA. The Bates Creek allotment is in category "I," and the Table Mountain allotment is in category "M."

Federal land patterns often determine the amount or effectiveness of federal land management, particultarly in "C" category allotments. Of the grazing operators in the PRRA, 270 (66.3%) have operations totaling 1,280 acres or fewer; 56 (13.7%) have 1,281 to 3,000 acres, and 81 (20%) have 3,001 or more acres.

The terms of BLM grazing leases issued before 1975 varied from one to ten years and the seasons of use were usually for a 12-month period. Lease boundaries were based on legal subdivisions, and the ranch boundaries and pasture fences were not mapped. Pasture carrying capacities were unknown. Most leases are now issued for a ten-year period.

Use of the stock driveways has been a historic and necessary part of livestock operations in Natrona and Converse counties. Use of the Orpha trail in Converse County is now reduced to movements between pastures; however, the Bates Hole and Thirty-three Mile stock driveways (approximately 195 miles) continue to be widely used. BLM administration of stock driveways was at one time assisted by a stock trail committee sponsored by the Natrona County Woolgrowers. The woolgrowers still own land and improvements in the stock driveways. The trail committees became inactive in the 1970s. They were reorganized informally in 1982.

Approximately 7,200 cattle and 44,000 sheep use the three driveways annually.

Project Development

An average of six to ten new range improvement projects per year is completed. These projects are primarily fencing, reservoirs, springs, and wells. Current project proposals are shown on map 10. The current policy on range improvement projects is to establish priorities for funding by allotment category and to assign all maintenance responsibilities to the benefiting user, usually the grazing lessee.

BLM application of wildlife requirements for range improvement projects has been inconsistently applied case by case. More standardization is needed with a stronger justification for modifying livestock improvements to meet wildlife needs.

Most of the range improvement projects developed before the 1960s were financed entirely by the livestock lessees. After that, the BLM contributed more money toward projects or completely financed them. There continue to be many old projects on federal lands that were never authorized—particularly reservoirs.

Weed and Pest Control

The BLM cooperates with local weed and pest control boards in the control of noxious weeds on BLM-administered public surface. Control measures conform to procedures outlined in the BLM's noxious weed control plan and EA (USDI, BLM 1982a).

We cooperate with local, state, and other federal agencies to control grasshopper infestations. Control measures are in accordance with the procedures describd in the EIS on the cooperative grasshopper management program (USDA, APHIS 1980).

Range Condition and Trend

The Missouri River Basin studies, which were conducted between 1952 and 1965, provided most of our base data on vegetative types, livestock carrying capacities, and in some cases, range condition. Present grazing base carrying capacities have been extracted from these studies. Information pertaining to the PRRA is found in the individual studies for seven drainage basins: North Platte River, Glendo, Wind River, Big Horn Basin, Powder River, Upper Cheyenne River, and Niobrara River.

Some scattered range condition transects were run in the mid-1970s, when experimental step pace transects were based on the palatability, or livestock preference for individual plants. These studies do not correlate with the present method of comparing existing conditions with climax conditions, using "Technical Guides to Range Sites" prepared by the SCS. The SCS guides provide descriptions of plants and their relative abundance according to precipitation zones, soil types, and geographic locations. The guides also indicate range condition, production, and production potential.

The *North Platte River Basin Study*, 1962, was based on an in-depth literature search on historical range condition. The study area includes a large portion of the Platte River Resource Area. A number of journals and observations of frontiersmen from the 1840s to the 1870s were quoted, and old photos taken in the 1870s were reviewed. The same landscapes were rephotographed in 1958 for comparison. The results of this assessment indicate that range conditions were much the same in 1958 as they were in 1870. Sagebrush densities appear to have been the same in 1958 as they were in the 1870s.

Table 3-12 presents a summary of range condition surveys conducted in the 1950s in the PRRA. Two-thirds of the resource area was in good to excellent condition in the 1950s; and the remaining one-third was in fair to poor range condition. Estimates of the current ecological range condition of the public lands in the PRRA, which are based on the available data, also are shown on table 3-12.

TABLE 3-12
SUMMARY OF RANGE CONDITION
IN THE PLATTE RIVER RESOURCE AREA
IN THE 1950s
AND ESTIMATE OF CURRENT CONDITION

MRB Survey Area	Excellent	Good	Fair	Poor	Total
Glendo Area (1951)[a]	7%	57%	31%	5%	100%
Powder River Basin (1956)[b]	0%	36%	59%	5%	100%
North Platte River Basin (1961)[c]	16%	47%	32%	5%	100%
Estimate of Current Condition Based on Available Data					
Platte River Resource Area	5%	78%	15%	0%	98%[d]

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a. U.S. Department of the Interior, Bureau of Land Management, "Land Planning and Classification Report as Related to the Public Domain Lands in the Glendo Area." A Missouri River Basin investigation (1951).

b. U.S. Department of the Interior, Bureau of Land Management. "Report of the Public Domain Lands in the Powder River Basin." A Missouri River Basin investigation (1956).

c. U.S. Department of the Interior, Bureau of Land Management. "1981-1982 Range Site and Condition Class Survey." On file at Casper District Office, Casper, Wyoming.

d. The remaining 2% was not classified because it was not rangeland.

A range site and range condition survey was completed on ½ million acres of rangelands in Natrona County in 1982. The ecological range condition of about 80% of the area survyed was determined to be "good" or better, while the condition of about 10% of the survey area was determined to be fair. A comparison of range condition in the 1950s to the range condition in the 1980s shows a significant improvement over those 30 years. This static to strongly upward trend in range condition is illustrated on table 3-13.

LANDS

Land Ownership

The four counties in the PRRA contain about 8.5 million acres. The BLM administers about 1.4 million acres of surface lands. Table 3-14 shows the amount of BLM-administered land in each county. In addition to the land the BLM manages, about 290,000 acres in the PRRA are administered by other federal agencies. The ownership by county appears in table 3-15. Federal acreage administered by all federal agencies is shown. The table also shows the amount of "split estate"; that is, privately owned surface over federally owned mineral estate.

About 424,000 acres of land in southwestern Natrona County is administered by the BLM's Rawlins District. About 310,000 acres in that area is BLM-administered surface.

Large blocks of BLM-administered land are still found in north and south Natrona county, northwest Converse County, and southwest Platte County, but outside of these general areas, most of the public land is in small, scattered parcels surrounded by private lands.

The Enlarged Homestead Act of March 3, 1909 (34 Stat. 844), together with several subsequent acts, allowed settlement on mineral lands but reserved minerals rights to the United States, thus creating the existing "split estate" lands in the PRRA. Present mineral ownership patterns are generally the opposite of land patterns: smaller state and private mineral parcels are intermingled with federal minerals in large, well "blocked" parcels in Natrona, Converse, and west Platte counties, and to some extent in northwest Goshen County.

Land Disposition

Recreation and Public Purposes

The PRRA has patented 1,800 acres and leased 650 acres for recreation developments. We also have leased 100 acres for public purpose needs (see table 3-16). A continuing trend of such developments on public land is anticipated.

Other public service facilities will be needed as communities grow and existing facilities become inadequate or obsolete. Recreation demand will increase with the growing population. Public land is likely to be sought for both recreation and public service needs.

Current planning identifies 1,120 acres in six areas for disposal under the R&PP Act. These lands have excellent potential to meet recreation and public service needs because of their location within high use recreation areas or close to communities.

Two other areas containing 600 acres (Esterbrook Townsite and Converse County Park) have not been identified previously, but they have good to excellent potential for public recreation.

Sales and Exchanges

The scattered land pattern throughout much of the resource area creates several management problems, but it also presents many opportunities for land tenure adjustments. Most of the small parcels lack legal public access and are highly prone to trespass. Quite often the costs of detecting and terminating trespass, managing grazing use, and processing rights-of-way and other applications for use of the lands exceed the monetary returns from such uses. Implementing management plans on scattered lands is pointless in most cases because management practices on larger or surrounding private farms and ranches tend to dictate the land use on public lands.

Exchanges serve several purposes, among them, "blocking" of public land; that is, consolidating public land into large tracts instead of having small, scattered parcels. Exchanges also can reduce management burdens or can complement resource management programs by enabling the BLM to acquire land with high public resource values.

Mineral exchanges also can complement resource management programs by eliminating

TABLE 3-13
RANGE CONDITION IN THE PLATTE RIVER RESOURCE AREA IN THE 1950s
COMPARED WITH PRESENT RANGE CONDITION

Grazing Lease Number	Name of Operator	Missoui River Basin Surveys of the 1950s Percentage of Each Range Condition Class				BLM Range Condition Survey of 1981-1983 Percentage of Each Range Condition Class				
		Excellent	Good	Fair	Poor	Excellent	Good	Fair	Poor	Unclassified
6031	Bates Creek	0	98	2	0	0	97	3	0	2
6033	Bentley	7	11	78	4	20	55	5	0	20
6115	Coffman (partial)	10	24	57	9	0	57	33	0	10
6213	Garrett	0	34	52	14	0	85	5	0	10
6184	Howard (partial)	11	16	58	15	0	95	3	0	2
6300	Irvine Brothers (partial)	2	22	73	3	0	80	18	0	2
6308	Marton	5	31	47	17	0	94	4	0	2
6413	Miles Land & Livestock	7	55	38	0	0	93	5	0	2
6422	Miles Land & Livestock	0	60	40	0	0	89	2	0	9
6015	Rattlesnake Association	2	58	40	0	0	97	3	0	0
6535	Rimrock Livestock	0	100	0	0	0	98	2	0	0
6602	Steinle	5	71	24	0	15	78	2	0	5
6011	Stevenson	4	43	53	0	0	83	17	0	0
6040	Body, A.	0	15	85	0	4	40	56	0	0
6042	Body, R.	0	35	65	0	0	94	4	0	2
	Weighted Average Percentage	4	45	47	4		82	11		4

TABLE 3-14
BLM-ADMINISTERED LANDS
IN THE PLATTE RIVER RESOURCE AREA

County	BLM Acreage	Percentage of Federal Land in County under BLM Management	Percentage of Total Land in County under BLM Management
Natrona[a]	1,146,540	98	38
Converse	144,186	37	05
Platte	82,240	83	06
Goshen	26,487	97	02
Total	1,399,453	83	16

[a] Acreage shown for Natrona County exclude the southwest corner of the county to the west boundary. That portion of Natrona County is administered by the Lander Resource Area, Rawlins District.

TABLE 3-15
SURFACE AND MINERAL OWNERSHIP
IN THE PLATTE RIVER RESOURCE AREA

	Surface Ownership (acreage)				Minerals Ownership (acreage)	
County	Total	Federal	State	Private	Federal	State and Private
Natrona[a]	3,041,404	1,170,374 (39%)	250,002 (08%)	1,621,028 (53%)	2,391,643 (79%)	649,761 (21%)
Converse	2,721,553	392,052 (14%)	294,473 (11%)	2,035,028 (75%)	1,603,407 (59%)	1,118,146 (41%)
Platte	1,347,906	99,638 (07%)	155,887 (12%)	1,092,381 (81%)	431,845 (32%)	916,061 (68%)
Goshen	1,403,239	27,441 (02%)	107,601 (08%)	1,268,197 (90%)	244,895 (17%)	1,158,344 (83%)
Total	8,514,102	1,689,505 (20%)	807,963 (09%)	6,016,634 (71%)	4,671,790 (55%)	3,842,312 (45%)

[a] Acreages shown for Natrona County exclude the southwest corner of the county to the west boundary. That portion of Natrona County is administered by the Lander Resource Area, Rawlins District.

TABLE 3-16
RECREATION AND PUBLIC PURPOSE DEVELOPMENTS
IN THE PLATTE RIVER RESOURCE AREA

Serial Number	Acreage	Lessee	Use
W-0315974	4.02	Natrona County	Midwest Baseball Field
W-13882	60.86	Natrona County	Midwest Golf Course
W-16771	5.00	Town of Glendo	sanitary landfill
W-41501	40.00	Town of Edgerton	sanitary landfill
W-49742	80.00	Powder River Gun Club	shooting range
W-52888	120.00	Converse County	shooting range
W-53522	40.00	Casper College Foundation	environmental education area
W-54509	320.00	Natrona County	Ponderosa Park recreation area
W-61537	2.04	Girl Scouts	camp
W-62941	17.86	Girl Scouts	camp
W-63275	18.649	Town of Midwest	sewage lagoon
W-77164	43.06	Natrona County	sanitary landfill

Serial Number	Acreage	Patentee	Use
W-0215775	10.66	Natrona County	Hogadon parking lot
W-0236597	40.00	Wyoming Game and Fish Department	habitat improvement
W-0244097	32.22	Wyoming Girl Scout Council	camping area
W-046910	16.13	Wyoming Baptist Convention	camping area
W-3437	112.63	Natrona County	archery range
W-10156	80.00	Calvary Baptist Church	camping area
W-12822	200.00	Natrona County	shooting range
W-14952	640.00	Natrona County	Ponderosa Park recreation area
W-17303	240.00	Town of Edgerton	Outdoor recreation area
W-26969	160.00	City of Casper	camping area
W-29986	640.00	Natrona County	Ponderosa Park recreation area
W-48591	640.00	Natrona County	Ponderosa Park recreation area

Total acreage	3,563.129
Public purpose lease	106.709
Recreation lease	644.78
Recreation patent	2,811.64

"split estate" or by protecting sensitive areas such as alluvial valley floors from mineral development. No mineral exchanges have been proposed at this time.

Many isolated parcels are potentially suitable for sale or other methods of disposal. An interdisciplinary team recently conducted an inventory of all public lands in the PRRA to determine what lands meet the criteria for disposal as established in Section 203 of FLPMA. As a result of the inventory, about 102,700 acres of public land were placed in the category for disposal. The rest of the resource area's public land was placed in the category for retention and multiple use management. Table 3-17 shows the acreage breakdowns by county of lands identified for possible disposal. Map 11 displays the lands currently identified for possible disposal.

TABLE 3-17

PUBLIC LANDS IDENTIFIED FOR POSSIBLE DISPOSAL IN 1983 INVENTORY, PLATTE RIVER RESOURCE AREA

County	Acreage	Percentage of BLM-Administered Land in County	Percentage of Total Land in County
Natrona	21,000	2	1
Converse	36,500	25	1
Platte	26,000	32	2
Goshen	19,200	73	1
TOTAL	**102,700**	7	1

Withdrawals

Approximately 160,690 acres (10%) of the federal surface, 309,900 acres (10%) of the federal locatable minerals, and 432,700 acres (15%) of the federal leasable minerals in the PRRA are segregated from entry by withdrawals or classifications. Of the last figure, 417,000 acres applies to coal in Natrona County. Table 3-18 summarizes the existing withdrawals. Withdrawals often limit public land management options by preventing land disposal actions and mineral development. Existing withdrawals will be reviewed by 1991 to determine whether they are still needed and serving their intended purpose. Withdrawals no longer needed will be revoked. Table 3-18 also indicates the review status of each existing withdrawal.

Only 7,900 acres of existing withdrawals could be changed by the BLM in this plan. That amount is in four withdrawals that will be reviewed and either continued or revoked. All other withdrawals either have been renewed and are not subject to review or are pending review by another federal agency.

TABLE 3-18
WITHDRAWALS AND CLASSIFICATIONS IN THE PRRA

				Acres Segregated from				
Purpose	Type[a]	County	Segregative Effect	Mining	Mineral Leasing	Disposal	Administering Agency	Review Status
Stock driveways	W	Natrona	Prohibits disposal, protects water sources, limits mining	0	0	93,000	BLM	Reviewed in 1983, continued for 20 years
Public water reserves	W	Natrona	Prohibits disposal, reserves water for public use	0	0	700	BLM	Reviewed in 1982, continued for 20 years
North Platte River	W	Natrona	Prohibits mining and disposal	3,300	0	3,300	BLM	Reviewed in 1981. Issue in RMP
Air Navigation and communication	W	Natrona	Prohibits mining and disposal	200	0	200	FAA	Pending review
National Wildlife Refuge	W	Natrona	Prohibits mining and dipsosal	16,500	0	16,500	USFWS/BR	Not subject to review
Naval Petroleum Reserve ƒ3	W	Natrona	Prohibits mining, disposal, and mineral leasing	9,500	9,500	9,500	USN/DOE	Reviewed in 1981, continued for 100 years
National Forest	W	Natrona Converse Platte	none	0[b]	0[b]	0[b]	FS	Pending review
National Grassland	W	Converse	none	0[b]	0[b]	0[b]	FS	Pending review
Military	W	Platte	Prohibits mining and mineral leasing (state surface)	5,800	5,800	0[c]	BLM/State of Wyoming	Reviewed in 1981, continued for 50 years

WITHDRAWALS AND CLASSIFICATIONS (continued)

				Acres Segregated from				
Purpose	Type[a]	County	Segregative Effect	Mining	Mineral leasing	Disposal	Administering Agency	Review Status
National Park	W	Goshen	Prohibits mining, disposal and mineral leasing	400	400	800	NPS	Not subject to review
Reclamation	W	Natrona Converse Platte Goshen	Prohibits disposal and metalliferous mining	266,000	0	28,700	BR	Pending review
Recreation and Public Purposes	C	Natrona Converse Platte	Prohibits mining	3,600	0	3,600[d]	BLM	Not subject to review[e]
Wildlife Habitat	C	Goshen	Prohibits disposal and mining	2,300	0	2,300	BLM	Issue in RMP
Rec-Env Ed. (Muddy Mtn)	C	Natrona	Prohibits disposal and mining	1,000	0	1,000	BLM	Issue in RMP
Fremont Canyon	C	Natrona	Prohibits disposal and mining	1,300	0	1,300	BLM	Issue in RMP
Coal	C	Natrona	Prohibits coal leasing	0	417,000[f]	0	BLM	Pending review
Total acreage[g]				309,900	432,700	160,900		

ABBREVIATIONS: BR = Bureau of Reclamation; DOE = U.S. Department of Energy; FAA = Federal Aviation Administration; FS = Forest Service; NPS = National Park Service; USFWS = Fish and Wildlife Service; USN = United States Navy.

a. "W" denotes withdrawal; "C" denotes classification

b. National forest and national grassland withdrawals transfer management jurisdiction to U.S. Forest Service, but do not segregate lands or minerals.

c. State surface is not subject to disposal by the U.S. Government; therefore, segregation from disposal is unnecessary.

d. Not subject to disposal except under the R&PP Act.

e. Land classified for R&PP that are also under lease or patent are not subject to review.

f. Segregated from coal leasing.

g. Total acreage will appear to be in error because some withdrawals overlap.

Seventeen areas not now withdrawn will be evaluated for possible withdrawal in this plan. These areas cover 38,800 acres. Either a withdrawal will be pursued for each area, or the area will be dropped from further consideration for withdrawal.

Corridors and Rights-of-Way

The PRRA has authorized approximately 400 rights-of-way within the resource area for uses that include electrical transmission and distribution lines, oil and gas pipelines, water tanks and pipelines, telephone lines, reservoirs, canals, railroads, highways, and roads. These facilities entail 1,350 miles affecting 5,000 acres of public land. The average right-of-way on public land is 1 to 5 miles long and 40 feet wide, affecting 7 acres. Information on existing rights-of-way is available at the PRRA office.

Eight corridors have been defined for placement of major rights-of-way in Natrona and Converse counties (see map 12). No corridors have been defined in Platte and Goshen counties primarily because of the small amounts and scattered location of public land. Major rights-of-way usually follow these corridors and several other major transportation routes. Smaller lines are generally placed randomnly, but many follow existing facilities such as roads and other utility lines. Small utility lines and pipelines will continue to be needed as energy production and communities expand.

Most communication sites in the unit are on private land. Casper Mountain is extensively used for such facilities. A 200-acre air navigation and communication site 16 miles north of Casper is withdrawn for use by the FAA.

There are 33 cases of known unauthorized use of public land within the resource area, and many more are suspected. Rights-of-way are the most likely use that occurs to without authorization, especially on isolated small tracts of public land. This type of unauthorized use usually causes little environmental damage, but it can lead to serious land use conflicts.

Access

The BLM holds nine easements for access across 8.5 miles of road, and two pedestrian trail easements on 2 miles of trail.

While there is legal access to many of the larger tracts of public land via existing state or county roads, most small scattered tracts of public land in the PRRA are isolated. Map 12 illustrates present access. Nine small tracts along the North Platte River serve as important public recreation access points.

Lack of public access often leads to problems between landowners and public land users such as trespass, posting of public land, and occasional confrontations. Many complaints regarding access problems are handled each year, but limits on funding and personnel impede our ability to respond to these complaints.

RECREATION MANAGEMENT

Activities and Sites Available

The PRRA's environment provides a wide variety of opportunities for recreation, including camping, hiking, backpacking, hunting (big game, small game, upland birds, waterfowl), fishing (warm water and coldwater species in streams, rivers, and lakes), canoeing, powerboating, sailing, horseback riding, ORV use (four-wheel drive, trail bike, snowmobile), rock climbing, rock collecting, swimming, cross-country skiing, wildlife observation, picnicking, photography, and sightseeing.

The BLM administers about 16% of the land base in the PRRA. Except for the Naval Petroleum Reserve (9,500 acres), all the public lands are available for recreation use. Legal access, which would allow recreation use on the public lands, continues to be a major problem. About 69% of the land in the PRRA is private, and in many cases, these lands surround or block access to public land. Recreation use of these surrounded public lands is limited or unavailable to the public unless permission from the private landowner is obtained.

Cooperative access agreements with private landowners have been attempted in several areas. These have not been successful because the BLM provides only limited management and supervision and cannot maintain cooperative easements or roadways over private surface. The access issue is complex and volatile. It is likely that confrontations between the recreating public and private landowners will intensify as greater numbers of people seek to use the public lands.

The public uses eight sites in the PRRA that are specifically managed for recreation. These sites encompass 13,838 acres (see map 13). Primary activities on these sites are camping, hunting, fishing, hiking, picnicking, and wildlife observation. Table 3-19 provides information about these sites and the facilities available at each. It also indicates the additional facilties that we propose to add to the areas. Table 3-20 defines the increase in visitors that has occurred at five of these managed recreation sites. It amply demonstrates the increased demand for recreation facilities.

Hunting is a significant recreation activity in the PRRA, both in the number of hunter days and from an economical viewpoint. Tables 3-21, 3-22, 3-23, 3-24, and 3-25 show the annual harvest and the hunter days for various game from 1977 to 1982. Contributions to these figures from the public lands are not reflected because there is no way to determine this information.

TABLE 3-19

EXISTING RECREATION AREAS

	Management				Existing				
Name	**Existing**	**Potential**	**Planning Status**	**Managed Acres**	**Uses**	**Facilities**	**Proposed Improvements**	**Land Condition**	**Estimated Use**
1. Muddy Mountain Recreation Area - Natrona County	Special	Special	Recreation Area Management Plan (RAMP) completed in 1977	BLM 12,000* State 14,500 Private 18,500 **Total 45,000**	Camping Environmental education Hunting Hiking Wildlife observation Snowmobiling Picnicking	2 designated campgrounds 2 nature trails 1 interpretation ramada 2 water wells 2 vault latrines Access road Picnic tables	Day use area Picnic tables Group camping area Vault latrines Snowmobile/cross-country ski trails	Good	High
2. Goldeneye Wildlife and Recreation Area - Natrona County	Special	Special	RAMP completed in 1978	BLM 733* State 280 Private 140 **Total 1,153** including 488 acre reservoir	Hunting Fishing	Access road Parking area Vault latrine Boat ramp	Designated camping area Picnic ramada Picnic tables Shade trees	Good	High
3. Trapper's Route Canoe Trail - Natrona County	Extensive	Special	Draft RAMP 1983	200 acres on 4 miles of riverfront*	Float boating Fishing Hunting Wildlife observation Picnicking	1 vault latrine Trash cans Access roads Launching/landing areas Signs	Picnic tables Designated parking and camping areas Designated off-road vehicle access Trash cans Vault latrine Improved access Information signs Launching/landing areas	Poor	High
4. Oregon/Mormon Trail - Natrona, Converse, Platte, and Goshen counties	Extensive	Special	BLM - none NPS - completed plan	Approximately 500	Controlled vehicle travel Hiking	None, except for Bessemer Bend #5	Interpretation sites	Good	Low
5. Bessemer Bend Historic Site - Natrona County	Extensive special Bicentennial designation	Special	Part of Trapper's Route	8*	Picnicking Fishing Cultural interpretation	Access road Parking area Historic interpretive ramada Vault latrine Trash cans	Picnic ramada Picnic tables Landing/launching area River access (vehicle) Shade trees	Good	High
6. Camel Hump Campground - Natrona County	Extensive	Extensive	None	10*	Camping Hunting Fishing	None	Vault latrine Designated parking and camping areas Picnic tables Signs	Good	Low
7. Grave Springs Campground - Natrona County	Extensive	Special	Proposed RAMP	10*	Camping Hunting	1 outhouse Trash cans Picnic tables	Vault latrine Picnic tables Designated parking and camping areas Signs	Good	Moderate
8. Buffalo Creek Campground - Natrona County	Extensive	Special	Propsed RAMP	10*	Camping Hunting Fishing	1 outhouse Trash cans	Vault latrine Picnic tables Designated parking and camping areas Improved fishing access Signs	Good	Moderate
Total BLM acreage				**12,431 acres**					

*Asterisk indicates BLM acreage.

TABLE 3-20
VISITORS TO PLATTE RIVER RESOURCE AREA
RECREATION SITES

Area	Visits 1974	Visits 1981	Visits Increase	Increase
Buffalo Creek/Grave Springs	2,000	17,000	15,000	750%
Muddy Mountain	7,000	26,000	19,000	270%
Goldeneye	2,500	40,000	38,500	1,540%
Platte River	2,000	8,000	6,000	300%
Bessemer Bend Historic Site	0	26,000	-	-
Total site-specific visits	13,500	117,000	103,500	757%
Dispersed recreation[a]	324,000	479,000	155,000	48%
Total number of visits	337,500	596,000	258,500	77%

NOTE: Visits are determined with the use of a traffic meter from June through September. The number of vehicles counted is multiplied by 3.2 (average number of persons per vehicle).

[a] Recreation on undeveloped public land such as hunting, fishing, and sightseeing. Hunting and fishing accounted for about 100,000 visits in 1981.

TABLE 3-21
DEER HARVEST
IN THE PLATTE RIVER RESOURCE AREA
1977 through 1979

	1977[a]		1978[a]		1979[a]	
Hunt Area	Harvest	Number of Hunters	Harvest	Number of Hunters	Harvest	Number of Hunters
Natrona County						
34	588	952	761	1,381	380	1,159
35	685	874	416	788	539	935
66	1,173	1,823	918	1,729	890	1,879
68	258	409	196	480	187	412
69	231	354	276	480	201	547
88	160	392	56	169	96	361
89	505	738	441	785	304	713
Converse County						
14	1,496	1,872	1,171	1,872	982	1,619
22	653	788	393	788	509	640
65	3,079	3,530	2,009	3,530	1,744	3,112
Platte and Goshen Counties						
15	457	703	383	758	303	665
16	290	481	109	472	171	372
55	380	748	172	646	295	543
56	131	345	120	254	173	316
64[b]	--	--	--	--	--	--

State Totals	
1976	64,644
1977	68,688
1978	59,606
1979	43,791

SOURCE: Data from Wyoming Game and Fish Department.

[a] Figures for hunter days were first reported in 1980.

[b] Approximately 1/3 of Area 64 is in the Platte River Resource Area. For that reason, it was not possible to extrapolate the portion of the harvest that occurred in this resource area.

TABLE 3-22
DEER HARVEST
IN THE PLATTE RIVER RESOURCE AREA
1980 through 1982

Hunt Area	1980[a]		1981		1982	
	Harvest	Hunter Days	Harvest	Hunter Days	Harvest	Hunter Days
Natrona County						
34	572	3,161	439	2,332	744	3,669
35	449	2,837	445	2,167	557	1,742
66	975	4,853	1,077	5,647	1,212	6,630
68	223	1,182	318	1,943	278	1,182
69	169	623	222	1,304	217	1,211
88	211	1,294	150	1,028	226	2,040
89	305	2,022	451	1,959	453	2,154
Converse County						
14	851	3,260	1,145	4,246	1,264	4,715
22	531	1,627	770	2,214	688	2,423
65	1,816	7,207	2,704	10,502	3,252	12,773
Platte and Goshen Counties						
15	385	1,775	490	2,182	406	1,720
16	192	985	159	1,142	228	1,014
55	293	2,207	242	1,889	244	1,578
56	99	761	97	897	87	516
64[b]	--	--	--	--	--	--

State Totals	
1980	54,086
1981	66,090
1982	

SOURCE: Data from Wyoming Game and Fish Department.

a. Figures for hunter days were first reported in 1980.

b. Approximately 1/3 of Area 64 is in the Platte River Resource Area. For that reason, it was not possible to extrapolate the portion of the harvest that occurred in this resource area.

TABLE 3-23
ANTELOPE HARVEST
IN THE PLATTE RIVER RESOURCE AREA

	1977	1978	1979	1980		1981		1982	
Hunt Area	Harvest	Harvest	Harvest	Harvest	Hunter Days	Harvest	Hunter Days	Harvest	Hunter Days
Natrona County									
25[a]	865	516	516	692	280	1,414	2,208	1,662	2,660
31	662	557	287	709	1,062	1,367	1,956	1,089	1,790
32	194	181	733	227	609	597	1,257	593	1,106
33	376	419	612	606	1,130	956	1,999	867	1,426
69	275	237	186	169	253	212	387	417	739
70	249	268	248	241	426	515	1,016	543	1,246
71	526	505	281	365	544	583	830	799	1,197
72	521	528	316	352	499	565	775	722	1,152
73	812	740	409	459	654	950	1,193	1,059	1,547
75	428	625	314	476	794	750	1,130	1,093	1,592
Converse County									
26	2,324	2,337	1,358	1,719	2,713	3,058	4,393	3,738	6,757
28	850	840	633	673	1,216	1,095	1,698	1,246	2,702
30)[b]				224	581	382	929	500	1,272
):	896	664	925						
105)				462	943	684	1,293	621	1,492
Platte and Goshen Counties									
13	501	347	310	293	766	276	700	292	775
14	113	142	437[c]	77	197	118	315	134	466
34	229	122	79	125	457	125	382	157	359
39	517	452	375	664	1,497	676	1,750	582	1,459

State Totals

1977	58,858
1978	58,132
1979	44,616
1980	47,994
1981	67,801

SOURCE: Data from Wyoming Game and Fish Department.

[a] Areas 25 was finally licensed separately from other areas in 1979. Figures for earlier years are extrapolated.

[b] The Wyoming Department of Game and Fish reported figures for Areas 30 and 105 together until 1980.

[c] Figure includes area 12 harvest.

TABLE 3-24
HARVEST OF UPLAND GAME BIRDS, SMALL GAME, AND WATERFOWL
IN THE PLATTE RIVER RESOURCE AREA
1977 through 1979

	1977		1978		1979	
County	Harvest	Hunter Days	Harvest	Hunter Days	Harvest	Hunter Days
			Sage Grouse			
Natrona	4,862	2,488	3,374	1,741	5,029	2,366
Converse	838	375	346	178	467	412
			Blue and Ruffed Grouse			
Natrona	1,833	1,089	994	765	1,044	1,116
Converse	664	423	296	256	341	294
Platte	57	48	89	39	0	0
Goshen	0		0		55	22
			Cottontail			
Natrona[a]	25,569(10%)	10,029	30,203(9%)	11,949	15,598(13%)	14,197
Converse	5,704	2,641	6,240	2,159	3,582	3,096
Platte	4,790	2,202	7,959	3,710	2,352	1,375
Goshen	2,139	1,494	2,613	1,324	1,676	640
			Ducks			
Natrona	7,202	5,338	5,522	4,948	6,344	5,027
Converse	3,050	2,731	4,512	2,760	5,089	3,594
Platte	3,735	2,355	3,434	1,998	2,533	1,685
Goshen	7,377	6,388	8,600	6,571	6,550	4,638
			Geese			
Natrona	304	2,537	701	2,661	457	2,574
Converse	77	1,215	336	1,315	235	779
Platte	204	1,408	583	2,324	111	796
Goshen	2,775	7,726	3,077	7,213	1,874	6,482
			Mourning Doves			
Natrona	4,050	1,619	2,701	1,256	5,519	1,511
Converse	2,430	703	552	969	3,951	1,704
Platte	9,222	1,996	6,086	1,453	9,756	2,784
Goshen	5,651	1,619	3,958	762	6,293	1,280

SOURCE: Data from Wyoming Game and Fish Department.

a. Figures in parentheses are percentage of state total harvest.

TABLE 3-25
HARVEST OF UPLAND GAME BIRDS, SMALL GAME, AND WATERFOWL
IN THE PLATTE RIVER RESOURCE AREA
1980 through 1982

	1980		1981		1982	
County	Harvest	Hunter Days	Harvest	Hunter Days	Harvest	Hunter Days
Sage Grouse						
Natrona	4,877	2,559	4,952	2,747	3,480	2,164
Converse	813	488	829	723	1,415	818
Blue and Ruffed Grouse						
Natrona	1,095	823	596	678	418	492
Converse	362	358	712	455	488	525
Platte	0		15	26	115	139
Goshen	0		4	31	0	
Cottontail						
Natrona[a]	13,000(22%)	9,390	21,914(17.7%)	10,455	57,703(18.8%)	19,460
Converse	2,159	1,571	3,715	2,396	19,235	7,403
Platte	1,858	1,786	2,069	1,240	4,061	1,955
Goshen	619	738	1,051	739	4,520	2,196
Ducks						
Natrona	5,825	6,487	5,343	4,174	6,092	4,977
Converse	2,064	2,594	3,666	2,414	3,535	3,052
Platte	3,098	2,383	1,857	1,480	2,332	1,632
Goshen	6,753	6,980	7,505	4,573	7,031	5,492
Geese						
Natrona	629	3,909	331	2,401	451	3,394
Converse	80	1,364	279	1,610	351	2,129
Platte	174	1,331	247	1,234	445	2,123
Goshen	2,666	8,698	3,707	8,516	2,809	8,090
Mourning Doves						
Natrona	5,790	1,742	5,319	1,501	3,718	1,040
Converse	5,149	1,079	5,896	1,023	4,023	942
Platte	12,093	2,951	10,147	2,198	5,705	1,281
Goshen	6,728	1,578	6,356	1,443	7,551	1,769

SOURCE: Data from Wyoming Game and Fish Department.

[a] Figures in parentheses are percentage of state total harvest.

Special Recreation Areas

Muddy Mountain

Muddy Mountain, which is managed as a special recreation management area, is 15 miles south of Casper and comprises 12,000 acres of BLM land, 14,500 acres of state land, and 18,500 acres of private land, for a total of 45,000 acres. The land pattern is mixed and the land is essentially undeveloped. Within Muddy Mountain are the environmental education area, the North Rim, Corral Creek Canyon, the West Rim, Baldy Knob, and the East End area. The area is closed to vehicle access in the winter, and snowmobile use is limited to existing and designated roads.

The 1,200-acre EEA contains a "natural area" that provides opportunities to study the natural environment. It is frequently used by local schools and groups. The EEA contains two campgrounds complete with fire pits, grills, water wells, vault toilets, and two nature trails.

The 5,670-acre North Rim area contains a 400-foot vertical wall of red shale and sandstone that extends for 10 miles along the north edge of Muddy Mountain. Hiking is popular because of the scenic quality, isolation, and the opportunity for viewing a variety of wildlife. Use of the rim area for hang-gliding is increasing. There are no recreation facilities in the North Rim area.

Corral Creek Canyon forms an effective topographic barrier on the south side of the Muddy Mountain area. The canyon is about 1,000 feet deep in places. The scenic quality, fishing in Corral Creek, hunting, and wildlife observation draw many hikers and backpackers into the canyon area.

The topography naturally limits motorized vehicles and protects the isolation offered by this area. There is little opportunity for winter use, and the topography would prohibit placement of recreation facilities.

The 920-acre Baldy Knob and the 360-acre West Rim area provide hunting and hiking opportunities. The 160-acre East End area contains heavy timber. A small stream and beaver ponds add to the visual contrast. This area is used for backpacking, hiking, and hunting. Snowmobile use is limited by heavy timber, and cross-country skiing is limited.

A user survey was conducted when the Muddy Mountain recreation area was developed. Specific recreation activities mentioned as being desirable by the public are all available in the area at this time. Current trends indicate future increases in these activities. Three major reasons are increased population, income, and leisure time in the Casper area associated with energy development; increasing public awareness of recreation opportunities; and the easy access and natural character of the area, which provides a high quality recreation experience.

Problems associated with past recreational use involve tree cutting for firewood, vandalism, and signs stolen or used for target shooting. Increasing unauthorized ORV use has resulted in vegetative damage, increased erosion, and reduction in scenic quality. Almost all ranchers on Muddy Mountain have reported gates left open, gates destroyed, erosion and rutting from ORV use, harassment of livestock, and theft and vandalism to corrals, trailers, cabins, and other private property. More requests from the community show a need for group camping and day use areas. These problems have occurred with increasing frequency in the past few years.

Maintenance of the Muddy Mountain area consists of biweekly trash collection, repair of site facilities, and general cleanup of the campgrounds. Maintenance occurs from June 1 through the end of September.

Goldeneye

Goldeneye wildlife and recreation area is 25 miles northwest of Casper. The area contains 1,152 acres, of which 488 acres are inundated by Goldeneye Reservoir. Land ownership includes 733 acres of public land, 280 acres of state land, and 140 acres of private land. This area is managed as a unit. It is an excellent example of a cooperative management effort between the BLM, the state, and private owners.

The Goldeneye area is heavily used. Until recently the reservoir provided one of the highest quality year-round trout fisheries in the state. In 1982 the reservoir was treated to remove undesirable fish. It was restocked with trout in 1983. It is expected that the fishery will achieve the good reputation it previously had. Recreation facilities include a 1-mile graveled access road, a graveled parking area for 130 vehicles, a boat launching ramp, vehicle control barriers, a two-unit vault toilet, and information signs.

Goldeneye is predominantly a local use area. About 80% of the visitors are from Casper. The highest use occurs from May through October. The public has requested that overnight camping facilities be added to the Goldeneye complex.

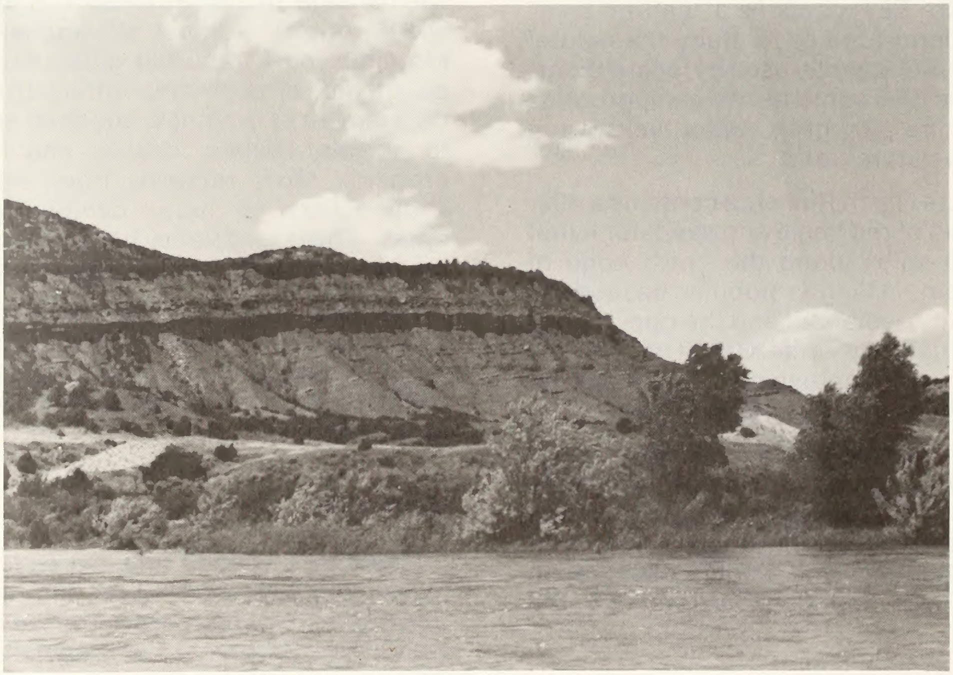
Visitor-related problems include ORV damage, gate and fence damage, disturbance of livestock, camping on private land, and vandalism to signs and facilities. Visitation and related problems are expected to increase in the future.

Maintenance at Goldeneye involves trash collection, cleaning of the vault toilet, and minor repairs once a week from June through September.

Other Recreation Areas

Trappers Route

The Trappers Route canoe trail consists of about 200 acres at specific sites along the North Platte River between Alcova and Casper. These sites provide strategic access or rest stops for canoers or float boaters. The river is heavily used in the summer and the significance of the Trappers Route relative to water-based recreation on the river is increasing. One of the sites on the Trappers Route is Bessemer Bend. The site is historically significant, and a ramada interpreting its significance has been placed near the river.



Oregon-Mormon Trail

The Oregon-Mormon Trail is not now a managed recreation area. The PRRA is cooperating with the Rawlins and Rock Springs districts in the development of the statewide Oregon-Mormon Pioneer National Historic Trail RAMP, which will define administration, management, maintenance of the trail, and protection as necessary.

Camel Hump Reservoir

The Camel Hump area contains a 5-acre spring-fed reservoir that is stocked with fish. The terrain is gently rolling, open, and covered with sagebrush. Camping, hunting, and fishing are available in this area. No problems of abuse have been observed. Maintenance includes trash collection twice a month.

Buffalo Creek and Grave Springs Area

No formal recreation management exists at Buffalo Creek or Grave Springs. The area has high scenic value and variation because of landforms, color, vegetation, and moving water. Mountain meadows, conifer stands, rocky outcrops, creeks, multicolored steep canyons, and wildlife create an area with a variety of recreation opportunities year-round. Use is expected to increase as the public learns about the area, its resources, and its accessibility. Problems include burning ashes left in fire pits, litter, tree cutting for firewood, and uncontrolled ORV use. Maintenance inclues trash collection, cleanup of the outhouse, and general pickup of litter on a weekly basis from June through September.

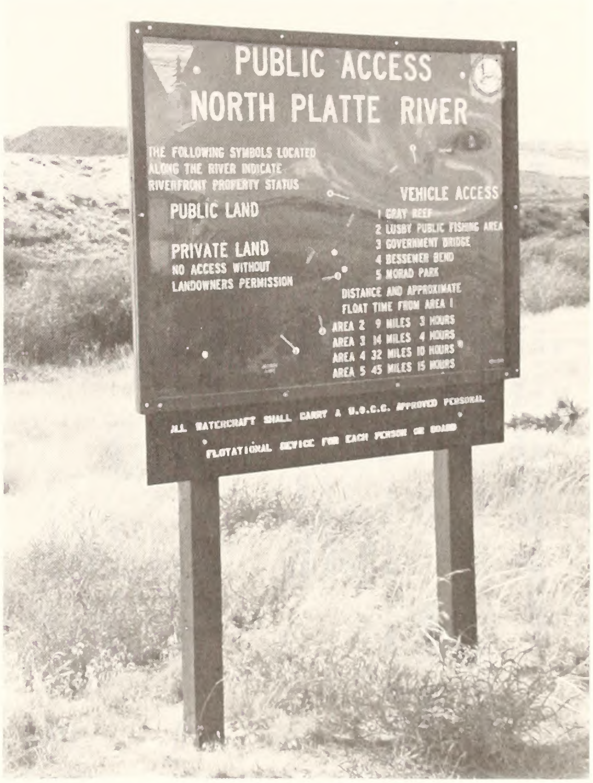
Present management proposes a significant increase in the number of developed recreation sites. These are discussed individually, and a summary of the proposed sites and developments is presented in table 3-26. Recreation management plans are proposed for these areas. In some cases, the plans would incorporate some of the sites previously discussed. A short description of each area follows. (The Red Wall and Casper Sand Dunes are discussed in the "Special Designations" section of this chapter.)

North Platte River

The North Platte River flows 240 miles through the PRRA. It has served an important role over the years, and that role is well documented in many historical accounts.The river is characterized by a wide variety of vegetative growth along its entire length. The combination of water and vegetation supports a wide variety of wildlife in, on, and adjacent to the river. The WGFD classifies the part of the North Platte from Alcova to Casper as a Class 3 fishery; that is, a trout fishery of regional importance.

The river is a high quality scenic resource, deriving its value through the combination of many factors: flowing water, vegetation, geology, wildlife, and the relative lack of structures and human influences.

The most common recreation activities on the North Platte are floatboating, fishing, waterfowl hunting, and wildlife observation. There are also opportunities for picnicking and camping. All of these activities can be excellent experiences in this area. Because of the slow rate of flow and absence of rocks and rapids in the river, floating in canoes or other small nonmotorized craft is safe if normal safety precautions are taken. River floating is leisurely and is an excellent way to participate in wildlife observation, sightseeing, fishing, or waterfowl hunting. The public land tracts at intervals along the river provide key points where recreationists can leave the river for rest stops, picnicking, camping, fishing, or hunting.


PUBLIC ACCESS
NORTH PLATTE RIVER
THE FOLLOWING SYMBOLS LOCATED ALONG THE RIVER INDICATE RIVERFRONT PROPERTY STATUS
PUBLIC LAND
PRIVATE LAND
NO ACCESS WITHOUT LANDOWNERS PERMISSION
VEHICLE ACCESS
1 GRAY REEF
2 LUSBY PUBLIC FISHING AREA
3 GOVERNMENT BRIDGE
4 BESSEMER BEND
5 MORAD PARK
DISTANCE AND APPROXIMATE FLOAT TIME FROM AREA 1
AREA 2 9 MILES 3 HOURS
AREA 3 14 MILES 4 HOURS
AREA 4 32 MILES 10 HOURS
AREA 5 45 MILES 15 HOURS
ALL WATERCRAFT SHALL CARRY A U.S.C.G. APPROVED PERSONAL FLOTATIONAL DEVICE FOR EACH PERSON ON BOARD

The BLM, Wyoming Game and Fish Department, Natrona County, and the Casper Parks Department manage public land for 45 miles between Alcova and Casper for outdoor recreation purposes. There are 13 sites that offer access by boat and vehicle, camping, fishing, picnicking, and related activities. The BLM manages the Trappers Route canoe sites, Bessemer Bend Historic Site, and Emigrant Gap. WGFD manages Lusby Public Fishing Area; Natrona County manages Gray Reef; and the Casper Parks Department manages Morad Park and Patterson Park.

TABLE 3-26
POTENTIAL RECREATION AREAS FOR SPECIAL MANAGEMENT
IN THE PLATTE RIVER RESOURCE AREA

				Existing		Potential	
Name	County	Acreage	Legal Access	Uses	Facilities	Uses	Facilities
North Platte River	Natrona Converse Platte Goshen	4,600	Yes	Floatboating, fishing, hunting, wildlife observation, picnicking	1 vault toilet, trash cans, signs, access roads, launching/ landing areas	Floatboating, fishing, wildlife observation, picnicking	Picnic tables, designated ORV use, trash cans, vault latrines, improved access, information signs, launching/ landing areas
Red Wall ACEC[a]	Natrona	8,700	Yes	Hunting, sightseeing, camping, rock collecting, hiking, fishing, ORV[b] travel	None	Intrepretation	Interpretation ramada, vault latrine, trash cans
Fremont Canyon	Natrona	1,300	Yes	Sightseeing	None	Sightseeing, picnicking	Scenic overlook, picnic tables, vault latrines
Buffalo Creek	Natrona	400	Yes	Camping, hunting fishing	1 outhouse trash cans	Hunting, fishing, camping	Vault latrines, trash cans, picnic tables, designated parking and camping areas, improved fishing access
Grave Springs	Natrona	600	Yes	Camping, hunting, fishing	2 outhouses, trash cans, picnic tables	Hunting, camping	Vault latrines, trash cans, picnic tables, designated parking and camping areas, improved fishing access
Deer Creek	Converse	1,280	No	Hunting, fishing, camping, hiking	None	Hunting, fishing, camping, hiking	Outhouse, trash cans, trails, access road, designated parking and camping
LaPrele Creek	Converse	1,080	No	Hunting, fishing, camping, hiking	None	Hunting, fishing, camping, hiking	Outhouse, trash cans, trails, access road, designated parking and camping

POTENTIAL RECREATION AREAS FOR SPECIAL MANAGEMENT (continued)

Name	County	Acreage	Legal Access	Existing		Potential	
				Uses	Facilities	Uses	Facilities
Wagonhound Gorge	Converse	800	No	Hunting, fishing, camping, hiking	None	Hunting, fishing, camping hiking	Outhouse, trash cans, trails, access road, designated parking and camping
School Section Mountain	Converse	280	No	Hunting, hiking, camping	None	Hunting, camping, hiking	Outhouse, trash cans, trails, access road, designated parking and camping
Cottonwood Creek	Platte	880	No	Hunting, fishing camping, hiking	None	Hunting, fishing, camping, hiking	Outhouse, trash cans, trails, access road, designated parking and camping
Bessemer Mountain	Natrona	2,000	No	Hunting, fishing camping, hiking	None	Hunting, fishing, camping, hiking	Outhouse, trash cans, trails, access road, designated parking and camping
Casper Sand Dunes	Natrona Converse	13,560	No	Hunting, ORV	None	Hunting, camping, ORV	Access road, camping area, outhouse, trash cans
Poison Spider Bentonite Pit	Natrona	200	Yes	ORV, target shooting	None	Open ORV	Signs, vault latrine, picnic tables, trash cans
Middle Fork[c]	Natrona	21,600	Yes	Hunting, fishing camping ORV	None		

a. ACEC = area of critical environmental concern.

b. ORV = off-road vehicle.

c. The Middle Fork Unit is managed according to the Middle Fork Plan prepared by the Buffalo Resource Area. PRRA implements that plan in Natrona Couny.

Very little information is available on the amount of past and current recreation activity on the river. By closest estimates, the BLM portion of the North Platte River provides approximately 25,000 fishing days per year for March through October and approximately 8,000 visitor days per year for the same eight-month period for float trips. This use will increase in the future as the public becomes more aware of available recreation opportunities.

Publication and distribution of a brochure describing the Trappers Route has increased public awareness about the available recreation opportunities on the river and has helped reduce conflicts between landowners and recreationists. However, with increased visitation there has been considerable unauthorized ORV use, loss of riparian habitat, litter, vandalism, and overall uncontrolled use of the area. There is a need for more access and for designated camping and parking facilities.

Maintenance for Trappers Route landings is focused on landings 1 and 4. Maintenance in those areas includes trash collection, cleanup of vault latrines, and minor repairs on a biweekly basis. Bessemer Bend Historic Site is maintained on the same schedule.

Fremont Canyon

Fremont Canyon is on the North Platte River between Alcova and Pathfinder reservoirs. Both reservoirs are used intensively for recreation. Some public lands are contiguous with Fremont Canyon. There are no recreation facilities at Fremont Canyon, and use by visitors is sporadic. Fremont Canyon is a complex unique visual resource with eroded cliffs and rock outcroppings. The recreational value in terms of sightseeing, history, and geology is significant. With its proximity to Casper, Alcova, and Pathfinder, increased visitation is expected.

Deer Creek Canyon

Deer Creek, a major tributary of the North Platte River, has created erosional landforms of high scenic value. Through the canyon, the stream is flanked by precipitous rock walls up to 1,000 feet high. The canyon is surrounded by private land; there is no legal access to the area. It could provide opportunities for hiking, camping, hunting, fishing, and sightseeing.

Wagonhound Gorge

The wagonhound gorge area is dominated by Wagonhound Peak, which rises abruptly 1,000 feet above the canyon floor. The elevation of the canyon rim varies from 7,000 feet to 8,000 feet in the mile of public land that Wagonhound crosses. There is no legal public access to the area. Opportunities exist for hiking, camping, hunting, fishing, and sightseeing.

LaPrele Creek

LaPrele Creek crosses about ¼ mile of public land just north of LaPrele Gorge. The land is characterized by relatively shallow and gently sloping canyon walls formed by intermittent streams. Elevations range from 6,200 to 7,000 feet. There is no legal access to the area. Opportunities exist for hiking, camping, hunting, fishing, and sightseeing.

School Section Mountain

School Section Mountain, in extreme southern Converse County, is an isolated mountain with a relatively heavy timber cover. There is no legal public access to the area. Opportunities exist for hiking, camping, hunting and sightseeing.

Cottonwood Creek

Cottonwood Creek where it crosses BLM land is an intermittent stream with outstanding scenic and geological features. Public land is scattered in the surrounding area but there is a "block" along the creek for three miles. This area is surrounded by private land with no legal public access. Opporunities exist for recreation activities such as camping, hiking, fishing, sightseeing, and hunting.

Bessemer Mountain

Public lands in the area of Bessemer Mountain, 15 miles southwest of Casper, are contiguous with both the Platte River and the mountain. Ponderosa pine and juniper trees cover the mountaintop, contrasting sharply with the surrounding red and white shale formations. A good scenic view is available of the surrounding countryside. The closeness of Bessemer Mountain to Casper provides excellent opportunities for camping, hunting, fishing, hiking, and sightseeing. There is no legal vehicle access, but Trappers Route Landing 7 provides river access. This landing serves as a rest area for boaters and has potential for development of trails and camping facililities.

Bentonite Pit

The 200-acre bentonite pit is 15 miles west of Casper on Poison Spider road. This area has been mined for bentonite and remains unreclaimed, with steep stripped banks, bare slopes, and piles of earth throughout the site. There is a spring that runs through the bottom. The area is used for unauthorized ORV travel and target shooting. Illegal trash dumping occurs regularly. The area has excellent potential for a year-round open ORV area.

Middle Fork Area

The Middle Fork management unit is at the southern edge of the Big Horn Mountains. It is approximately 70 miles north of Casper, 60 miles south of Buffalo, and 20 miles southwest of Kaycee. Parts of the unit lie in Natrona County (21,600 acres), Washakie County (7,000 acres), and Johnson County (57,560 acres). The Buffalo Resource Area office prepared the RAMP for this area in 1981. The PRRA implements decisions in the Natrona County portion of the unit.

The major drainage in the unit is the Middle Fork of the Powder River and its tributaries, Bachaus Creek, Poker Creek, and Buffalo Creek. Each stream has cut deep canyons, creating picturesque topography. Diverse vegetation adds to the area's scenic quality.

The primary recreation opportunities in the Natrona County portion of the unit are for hunting, fishing, sightseeing, and ORV use. The area is extremely vulnerable to ORV travel because of moderate to high erosion susceptibility, a short growing season, and shallow soil depth.

Recreation use of the area is expected to increase. There is a need to provide access, to supervise use by visitors, and to control ORV use so that natural resources may be protected.

Off-Road Vehicle Areas

There are three types of ORV designations in the PRRA: closed, limited, and open. These categories are described in the Glossary. Table 3-27 lists the existing ORV designations and summarizes ORV proposals that are part of present management.

TABLE 3-27
ACREAGE FOR OFF-ROAD VEHICLE USE
IN DESIGNATED CLASSES

	Acreage	Subtotal	Total Acreage
Existing[a]			
I. Open for unlimited ORV use	0		0
II. Closed to all ORV use			950
Muddy Mountain Environmental Education Area	630		
Cultural areas along the Oregon Trail Road	320		
III. Open limited to ORV use as indicated			1,145,590
III A. ORVs must stay on designated roads and vehicle routes		64,838	
Muddy Mountain Recreation Area	11,370		
Goldeneye Wildlife and Recreation Area	733		
Sand Dunes northeast of Casper	13,560		
Jackson Canyon	3,890		
North Platte River from Casper to Alcova	2,990		
Red Wall	32,295		
III B. ORVs must stay on existing roads and vehicle routes on public lands not listed in III A; however, temporary ORV use is allowed for performance of necessary tasks		1,080,752	
Total acreage			1,146,540
Proposed			
I. Open for unlimited ORV use			
Poison Spider bentonite pit	200		200
II. Closed to all ORV use			2,286
Muddy Mountain Environmental Education Area	630		
Cultural areas along Oregon Trail (Fort Laramie area)	696		
Cultural areas along Bozeman Trail	960		
III. Open to limited ORV use as indicated			1,396,967
III A. ORVs must stay on designated roads and vehicle routes		64,838	
Muddy Mountain Recreation Area	11,370		
Goldeneye Wildlife and Recreation Area	733		
Sand Dunes northeast of Casper	13,560		
Jackson Canyon	3,890		
North Platte River from Casper to Alcova	2,990		
Red Wall	32,295		
III B. ORVs must stay on existing roads and vehicle routes on public lands not listed in III A; however, temporary ORV use is allowed for performance of necessary tasks		1,332,129	
Total acreage in resource area			1,399,453

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a. Current ORV designations are in effect only in Natrona County.

Some problems that occur with ORV use are uncontrolled development of unauthorized spur roads on public land where legal access is available, overuse of trails, conflicts with other uses, erosion, and reduced visual quality. With the increased popularity of ORVs, the problems are expected to continue.

Environmental Education Areas

Three sites encompassing 240 acres of public land have been used intensively by Kelly Walsh High School of Casper since 1975 for environmental education. These sites are particularly attractive for this use because they are so near Casper. There is a potential for field programs to be established to enable other schools to use these sites. Community growth has not reached the sites at this time, but as the community expands toward these parcels of land, it is likely that human influence will cause them to lose their value for environmental education.

VISUAL RESOURCES

The characteristic natural landscape in the PRRA varies from forested mountains to rolling plains. There are also areas that have been altered by the development of coal mines, oil and gas fields, and increased urban development. Except for the North Platte River and associated reservoirs, water is not a dominant feature.

About 207,000 acres, or less than 5% of the total land area, has been identified as Class II visual quality. Class II areas are of special concern for protection. The areas in the PRRA so identified are Fremont Canyon, the Red Wall, the foothills of the south Big Horn Mountains in northern Natrona County, and portions of the Laramie Mountain range in Converse County. The predominant VRM classes in the PRRA are III and IV. The VRM classes are defined in the Glossary.

SOIL, WATER, AND AIR

Soils

Soil Types

General soils information for the PRRA can be found on the Wyoming General Soil Map, published by the University of Wyoming (1977). This general map divides the four counties in the resource area into 25 mapping units. The survey was based primarily on physiographic, topographic, and climatic features. The broad delineations cover many townships, so site-specific interpretations are not possible. Table 3-28 summarizes soil types, general location, and land uses. On the basis of this information, soils in the PRRA can be described very generally.

Soils identified as P4 and P9 on map 14 (44% of the soils in the resources area) were formed in the residuum of interbedded sandstone, siltstone and shale. These soils are shallow to very deep (less than 20 inches to more than 60 inches) with loamy and clayey textures. These soil associations are generally found on rolling to steep topography. Vegetation on these soils generally consists of grass-brush type with scattered patches of juniper. Land use is primarily grazing and wildlife habitat.

Nearly 30% of soils in the resource area (P13, 14, 16, and 20—see map 14) occur on nearly level to rolling upland plains, terraces and fans. These soils generally are moderately deep to very deep (more than 20 inches) and have argillic horizons. Soil textures are loamy. These soils types occur principally in the eastern half of the PRRA. In Platte and Goshen counties, these soils have mollic epipedons (dark surfaces) characteristic of higher rainfall and greater content of organic matter. Vegetation consists of the grass-shrub type. Principal land uses associated with these soil types are grazing, wildlife habitat and irrigated and dryland crops.

TABLE 3-28
SOIL TYPES AND ASSOCIATED LAND USES
IN THE PLATTE RIVER RESOURCE AREA

Soil Type and Associated Vegetation Type	Acreage in the Resource Area	Percentage of Resource Area	Primary Location in Resource Area	Use
Grass/shrub (P4-P9)	3,928,570	44	Natrona, Converse, Platte, Goshen	Grazing, wildlife
Grass/shrub (P13, 14, 16-20)	2,678,570	30	North Converse, Platte, Goshen	Grazing, wildlife, irrigated & dryland crops
Grass/shrub (MC2, 3; MF1, 3)	892,856	10	Big Horn Mtns., Laramie Mtns.,	Grazing, wildlife, tion
Grass/shrub (P2, 3)	535,114	6	floodplains	Grazing, wildlife, crops
Grass/shrub (P1)	357,142	4	Central Natrona, east central Goshen	Grazing, wildlife, irrigation, crops
Miscellaneous (BF 16, 18; BM 1, 10)	535,714	6	throughout	Grazing, wildlife, recreation

NOTE: Most productive soils are P1, 2, 3; MC2, 3; MF1. Least productive soils are P4, 5, 6, 7, 8; BF 18.

The rolling to very steep slopes of the Big Horn, Laramie, and Rattlesnake Mountains compose 10%of the area. The soils in these areas (MC2, 3; MF1, 2, 3—see map 14) developed from residuum and transported materials derived from igneous and sedimentary rocks. They are shallow to very deep and generally have mollic epipedons or albic horizons (sand layers bleached by eluviation). Land uses on these grass-shrub soil types are grazing, wildlife habitat, and recreation.

Soils in 6% of the resource area (P2, 3 on map 14) are on nearly level to gently sloping floodplains adjacent to the North Platte River and other major streams. These soils generally are deep (more than 60 inches) and loamy in texture, showing varying degrees of stratification. Soils that do not get reworked by storm runoff have formed argillic horizons. Land uses on this grass-shrub soil type include cropland grazing and wildlife habitat.

Soils in 4% of the area (P1 on map 14) are rolling to hummocky soils formed in aeolian sands. They are very deep with no pedogenic development. Such soils are found in central Natrona County and in Goshen County. Principal uses are grazing, wildlife habitat, and irrigated cropland.

The remaining 6% of the resource area is made up of small areas of miscellaneous soil types (BF16, 18; BM1, 10 on map 14) that have shallow to deep soils derived from various source materials. Soils range from nearly level to steep. Vegetation is primarily of the grass-shrub type. The predominant uses are grazing and wildlife habitat; however, recreational use and agricultural uses such as irrigated hay and pasture also occur.

Soils in Natrona County are being surveyed through a cooperative effort of the BLM and the SCS. Survey data are available for the south half and northwest quarter of Natrona County. Most of the county will be mapped by the end of 1984, and the survey will be complete in 1986.

The soil survey the SCS conducted in northern Converse County (north of T34N) will be published by the end of 1983. After publication, this material will be available from the SCS office in Douglas. Work in the southern part of Converse County began in 1983. SCS survey work is in progress in Platte County, but less than half the county has been surveyed. Data on the surveyed acreage can be obtained through the SCS Office in Wheatland.

Two soil survey reports covering all of Goshen County have been published. They are available for reference through the BLM Office at Casper or the SCS Office in Wheatland, as well as at some public libraries.

Erosion

The Missouri River Basin (MRB) studies begun in the 1950s provided regional maps encompassing the PRRA. The maps delineate slight, moderate, and severe conditions of sheet, wind, and gully erosion; however, each delineation covers many sections, and all that remains of the original fieldwork is the published maps and reports. The studies do not provide an accurate assessment of the amount of soil erosion in the area.

Natural factors such as wind, water, slope, poor soils, and lack of vegetation contribute to erosion in the PRRA. Management factors include some overgrazing by both domestic livestock and wildlife, ORV use, and mineral exploration and development. Soil types that are most susceptible to water and wind erosion are sand or silt textures with low organic content. From this general information we can extrapolate which areas are most likely to be subject to erosion.

Areas of low erosion usually occur where slopes are gentle with good ground cover. In most instances, land treatment practices can be applied in these areas.

Areas of higher erosion usually occur on the steeper mountain and valley sideslopes, alluvial fans, and ridgecrests where the soil lacks productive capacities.

Fragile Areas and Sensitive Drainages

Fragile areas in the PRRA include the Casper Sand Dunes, the Alcova Rim, Mikes Draw, and the head of Small Creek. These are identified on map 15.

Sand dunes in east central Natrona, west central Converse, and east central Goshen counties are highly susceptible to wind erosion when the surface is disturbed. The primary surface-disturbing activities that occur in these areas are ORV use and oil and gas exploration and development activities.

The 13,560-acre Casper Sand Dunes area in east central Natrona and west central Converse counties has been identified for specific management because of the area's proximity to Casper, the large extent of public land, and the large number of active sand dunes (that is, sand dunes where wind erosion is occurring).

The head of Small Creek is heavily eroded because of geologic conditions or as a result of many surface-disturbing activities. Slopes range from gently rolling to steep with sharply incised gulleys. Vegetation ranges from nearly none to the grass-shrub types.

In the Alcova Rim Area, soils are shallow, well drained, and medium textured, and they are underlain by bedrock at a depth of 4 to 20 inches. Slopes are steep and sharply incised.

Mikes Draw and an area west of Cloud Creek of about 1,320 acres also are fragile areas. Soils in those areas are shallow to deep, well drained, fine textured soils on shale hills and fans. Slopes are gently sloping to steep.

Sensitive drainages are defined and numbered on map 15. Soils in sensitive drainage 1 are shallow to deep and well drained, on gently sloping to steep mountains with rock outcrops. The slope is from 2% to 40%. Deep, poorly drained soils are found adjacent to streams and springs.

Sensitive drainage 2 has nearly level to very steep soils and rock outcrop on dip slopes, very steep scarps and sloping fans. Uses of these soils are limited by depth to bedrock, limited rooting depth hazard of gulley erosion, and soil blowing.

Soils in sensitive drainages 3, 4, 5, and 6 are shallow to deep, well drained, gently sloping to very steep slopes and rock outcrop on dip slopes, scarps, and deeply dissected uplands. Soils are fine textured on shale hills and fans and are affected by salt and alkali. These areas are characterized by deeply entrenched drainage ways cutting through hard platy gray shale and underlying soft black shale to intricately dissected shale hills and associated gently sloping fans. Slopes range from 5 to 60%. Use limitations include a thin layer of topsoil available for reclamation.

Soils in sensitive drainage 7 are shallow to deep, well drained, gently sloping to steep salt and alkali affected, fine textured soils on shale hills and fans. This drainage is characterized by intricately dissected shale hills and associated gently sloping fans. A hard pan is at a depth of 4 to 40 inches.

Sensitive drainages 8 through 11 are simlar to drainages 3, 4, 5, and 6. They are affected by salt and alkali and are subject to gulley and wind erosion.

Soils in sensitive drainages 12 and 13 are shallow to deep, well drained, nearly level to moderately steep soil on undulating to hilly uplands. Portions of these drainages contain uplifts with large fans.

Some of the hillside soils are strongly salt and alkali affected. These soils are subject to shrink-swell and slow permeability. There is a high salt-alkali content in portions of the drainages.

Soils in sensitive drainages 14, 15, 16 and 17 are shallow to deep, well drained, nearly level to steep fine textured soils and rock outcrop on shale hills and associated fans. Portions of these drainages are intricately dissected shale hills and associated nearly level to gently sloping fans. Much gulley erosion occurring in these drainages results in heavy silt loads during periods of runoff.

Soils on upper portions of sensitive drainages 18, 19, 20, and 21 are primarily shallow to deep, well drained, nearly level to steep soils on mountains within areas that rise more than 1,000 feet above the surrounding land surface. Slopes are 2 to 40%. Many of these drainages are heavily forested and have rock outcrops and rockland on ridges. On lower elevations soils are shallow to deep, well drained, nearly level to steep soils and rock outcrop on dip slopes, very steep scarps and sloping fans, and intricately to deeply dissected uplands. Soils in the lower elevations are highly susceptible to gulley and wind erosion and have a limited rooting depth. These drainages typically carry a heavy silt load during periods of heavy runoff.

Soils in sensitive drainage 22 are shallow to deep, well drained, nearly level to steep, fine textured soils and rock outcrop on shale hills and associated fans. The drainage is intricately dissected shale hills and associated nearly level to gently sloping fans. Slopes range from 0 to 30%. Soils in the drainage are salt and alkali affected to strongly affected. Severe gulley erosion is occurring in parts of the drainage, and sheet erosion is occurring in other areas of the drainage.

Slope

Slopes in excess of 25% can present problems when surface development is proposed. Fragile and sensitive drainages with steeper slopes increase the likelihood that erosion and reclamation problems may occur. Steep slopes, as in foothills or mountains, often are associated with areas where environmental concerns are especially pronounced. Precautions taken to mitigate surface development in steep-sloped areas range from requiring detailed engineering for proposals to not allowing the development. Map 16 defines slopes of more than 25% in the PRRA.

Water

Surface water and groundwater in the PRRA are used primarily for agriculture, industry, and municipal uses. Water-based recreation is high in PRRA.

The Casper District began in 1981 to maintain a log of water rights applied for through the Wyoming State Engineer's Office. Since that time, 203 water rights for the public lands have been issued or applied for. Approximately 187 of these rights are in the PRRA. Before that date, numerous rights were applied for and received, but because of lack of maintenance or noncompliance with existing standards, many of those rights may be invalid.

Surface Water

Surface water yield in the PRRA is approximately 350,000 acre-feet per year. Total annual consumption is approximately 360,600 acre-feet. Table 3-29 shows a breakdown of water uses in the PRRA on an annual basis.

TABLE 3-29

WATER USE IN PLATTE RIVER RESOURCE AREA

Water Use	Acre-feet per Year
Irrigation	300,000[1]
Industry, oil and gas (for drilling)	5,000
Hydroelectric	—
Reservoir stock pond evaporation	1,500
Coal-fired electric plants (Dave Johnston, Wheatland)	20,000
Uranium	5,000
Wildlife	200
Livestock	400
Domestic (1980 census)	24,500
Total	**360,600[1]**
Surface water supply (yield)	**373,275[1]**
Treated sewage discharge	**12,500**

[1] Figure is approximate.

Major Streams and Reservoirs

The resource area is drained by tributaries of the Missouri River system. The principal subbasins are the North Platte (draining 68% of the area), the Cheyenne (15%), the Powder (13%), and the Wind River basin (4%). The Niobrara River drains a few square miles in northeastern Goshen County.

Table 3-30 provides data on the water yield of the subbasins in the resource area for water year 1979, a typical year.

Seven major reservoirs in the resource area have storage capacities of more than 5,000 acre-feet. Four of these, Pathfinder, Alcova, Glendo, and Guernsey, are on the North Platte River. The others are on tributaries of the North Platte. These reservoirs have a combined storage capacity of 2,098,510 acre-feet. They are important sources of water for irrigation, power, and recreation. Table 3-31 summarizes the size, use, and ownership of these large reservoirs. There are numerous smaller reservoirs in the resource area ranging in size from ponds of less than 1 acre-foot to lakes of a few thousand acre-feet. They are used primarily for livestock and irrigation.

Water Quality

Two parameters can be used to characterize water quality broadly: total dissolved solids (TDS) and total suspended solids (TSS).

TDS depends primarily on the lithology of the drainage basins, return flow from irrigation, and the volumes of effluents. Concentrations of dissolved substances in the North Platte River are relatively low in comparison with other waters in the PRRA. Its TDS averages 160 milligrams per liter (mg/l)at the Wyoming-Nebraska line.

TSS, which reflect the rates of erosion within watersheds, depend on the erodibility of the soil and the influence of protective vegetation.

Pollution of aquatic systems by the excreta of warm-blooded animals creates public health problems for humans and animals and potential disease problems for aquatic life. The presence of the fecal coliform group of bacteria indicates the presence of bacterial, viral, protozoan, and possible fungal species that have the potential to infect humans and other organisms. The number of fecal coliforms present indicates the degree of health risk associated with using the water for drinking or swimming. The fecal coliform level should not exceed a logarithmic mean of 200 per 100 millimeter (ml), and not more than 10% of the samples taken during any 30-day period should exceed 400 per 100 ml.

Little information is available on fecal coliform contamination in the PRRA; however, the information that is available indicates that many of the major streams would not be suitable for swimming or human consumption according to the above measurement. Information on fecal coli-

TABLE 3-30
STREAMFLOWS AND WATER YIELDS AT SELECTED STATIONS
WATER YEAR 1979

Stream/Station	Mean Discharge (cfs)[a]	Minimum Discharge (cfs)	Maximum Discharge (cfs)	Runoff (acre-feet)	Runoff (inches per year)
North Platte Basin					
North Platte at Alcova	1,330	502	3,710	962,900	1.68
North Platte at Glenrock	1,405	520	4,260	1,017,000	1.41
North Platte at Wyo.-Neb. line	529	98	1,610	382,700	0.32
Cheyenne River Basin					
Antelope Creek near Teckla	7.09	0.10	1,760	5,130	0.10
Dry Fork near Bill	3.51	0.00	81	282	0.04
Powder River Basin					
North Fork Buffalo Creek	3.02	0.83	64	2,190	5.07
South Fork Powder River near Kaycee	35.1	0.00	384	25,390	0.41
Powder River near Kaycee	114.0	0.73	965	82,290	0.13
Salt Creek near Sussex	41.2	14.0	567	29,860	0.061
Powder River near Sussex	227.0	24.0	2,350	164,600	0.083
Bighorn River Basin					
Badwater Creek near Bonnieville	0.092	0	8.6	67	0.002

SOURCE: U.S .Department of the Interior, Geological Survey, Water Resources Data for Wyoming, Vol. 1: Missouri River Basin, Water Data Report WY-79-11 (1980).

a. cfs = cubic feet per second

TABLE 3-31
MAJOR RESERVOIRS IN THE PLATTE RESOURCE AREA
(5,000 acre-feet or more)

Name of Reservoir; Stream Latitude and Longitude	Drainage Area (square miles)	Surface Area (acres)	Total Storage (acre-feet)	Use[a]	Owner or Operator
Pathfinder; North Platte 42°28'N, 106°51'W	10,010	22,600	1,016,000	I,R	Bureau of Reclamation (U.S. Department of the Interior)
Alcova; North Platte 42°33'N, 106°43'W	10,075	2,250	190,500	I,R,P	Bureau of Reclamation
LaPrele; LaPrele Creek 42°43'N, 105°37'W	ca. 150	628	20,000	I	Douglas Reservoir Water Users' Assn.
Glendo; North Platte 42°28'N, 104°58'W	14,330	18,660	798,400	F,I,R,P	Bureau of Reclamation
Guernsey; North Platte 42°17'N, 104°46'W	15,008	2,386	44,800	I,P	Bureau of Reclamation
Wyoming Development No. 1; Laramie River 42°00'N, 105°02'W	--	424	9,370	I	Wyoming Development Company
Hawk Springs; Horse Creek 41°43'N, 104°11'W	--	1,531	19,440	I	Horse Creek Conservation District

SOURCE: U.S., Department of the Interior, Geological Survey, Reservoirs in the United States, by R. O. R. Martin and Ronald L. Hanson, Water Supply Paper 1838 (1966).

a. F = flood control; I = irrigation; R = reclamation; P = hydroelectric power.

form is included in table 3-32, which presents a summary of water quality from selected stations. The values shown in the table are flow-weighted averages calculated from 1979 water data gathered by the Geological Survey, U.S. Department of the Interior (GS). More detailed information for various dates and sites can be found in GS surface water records. Table 3-33 provides a summary of water quality on ephemeral streams by major drainage in Natrona County.

Information on suspended sediment has been collected for three years in the Bates Hole area. A preliminary analysis of three watersheds on similar range sites shows that these mean sediment concentrations can be correlated with existing range condition. This does not mean that the total sediment yield is caused by grazing, but it does indicate that sediment concentrations increase as range condition deteriorates. A comparison is shown in table 3-34.

Discharges associated with the oil and gas industry and sewage treatments are the major point sources of pollution in the PRRA. The highest concentrations of salts and dissolved solids in the PRRA are found in Salt Creek. The high concentrations are due to large discharges of oil field brines from oil treating facilities in the Teapot and Salt Creek oil fields. These brines and the extremely high salinity of Salt Creek make the water unsuitable for irrigation. Its suitability for livestock is classed as poor. The figures in table 3-32 illustrate the effect Salt Creek has on the quality of the Powder River.

Salt Creek has relatively constant flow, yet its sediment load is high. The high TSS levels in Salt Creek are caused in part by the high degree of surface disturbance in the oil fields of the Salt Creek watershed. This disturbance includes an extensive network of roads and numerous well sites and oil treaters. The vegetation density also is low in this area.

The Powder River discharge averaged 227 cubic feet per second (cfs) in water year 1979. Salt Creek contributed 41.2 cfs. TDS increased from 778 mg/l at Kaycee, above the Salt Creek confluence, to 1,656 mg/l at Sussex, below the confluence. Chloride concentration increased almost sixfold, from 42.2 mg/l at Kaycee to 244 mg/l at Sussex.

Streams in the resource area show a wide range of sediment concentration. This is largely due to the variability of surface disturbance and to the dynamics of runoff and streamflow.

Surface development proposals can affect the quality of surface water. Precautions are taken to prevent sedimentation or pollution. These precautions range from seasonal restrictions to buffer zones near water sources, within which development is not permitted. Map 17 illustrates the areas where restrictions apply to protect surface water sources.

Groundwater

Groundwater uses in the PRRA include petroleum refining and exploration, uranium and coal mining, irrigation, industrial, municipal, domestic, and livestock uses. The most common uses are for domestic purposes and wells for livestock watering.

Water-bearing properties and water quality vary greatly in different formations and within the same formation in different locations throughout the PRRA. There are 35 geologic formations or deposits in Platte River Resource Area that are known to yield water to wells or springs. The most significant of these are shown by river subbasin in table 3-35.

Air Quality

The PRRA is formally designated a Class II area for emissions management under the prevention of significant deterioration (PSD) stipulations of the Clean Air Act (Public Law 95-95). Class II areas are those in which industrial development is allowed to proceed up to a certain limit above background levels for total suspended particulates (TSP) and sulfur dioxide. These limits, called increments, are administered by the Wyoming Department of the Environmental Quality (DEQ) through the issuance of emissions permits.

Increment standards for Wyoming are presented in table 3-36. Although the PRRA has no Class I PSD areas (areas of higher legislated management of impacts from emissions), air quality in the area is generally very good.

A report prepared for the BLM by PEDCo, Inc. (1983) contains a detailed description of the air quality in the Powder River Basin, which includes Natrona and Converse counties.

The background rural annual geometric mean concentration of total suspended particulates (TSP) for the region is about 15 micrograms per

TABLE 3-32
SURFACE WATER QUALITY, WATER YEAR 1979
Flow-Weighted Average Values

	Cubic Feet per Sec.	Temperature (°C)	Electroconductivity	Total Dissolved Solids[a]	Total Suspended Solids	Chloride	Sulfate	pH	Calcium	Magnesium	Sodium	Potassium	Bicarbonate	Carbonate	Coliform Fecal 0.7 um-mf (colo./ 100 ml)
North Platte (River) at Alcova	1,200	9.7	490	302	110	9.2	117	8.2	48	15	33	2.9	146	0	442.54
at Casper	1,400	12.8	666	433	52	13.5	179	8.4	57	20	49	3.1	160	0.5	
at Glenrock	1,350	16.4	550[b]	459	-	13.5	197	8.7[b]	62	21	61	3.0	164	0.3	
at WYO/NEB line	600	14.7	814	542	160	16.7	213	8.4	73	19	83	7.0	247	0	158.44
Bates Creek near Alcova	53	13.3	328	281	358	5.3	36	8.25	52	11	18	4.5	196	0.3	
Laramie River near Fort Laramie	88.2	7.6	366.8	399.1	62.68	46.3	73.8	8.11	69.19	58.6	53.98	63.18	80.27	-	735.4
Powder River at Sussex	300	6.0	2,503	1,656	1,972	244	709	8.1	123	52	462	8.1	418	2.6	457.68
Salt Creek near Sussex	60	9.0	7,596	4,270	1,284	1,036	1,263	8.2	69	40	1,510	15.9	867	0	
South Fork Powder near Kaycee	35	5.2	4,087	--	-	145	1,850		291	84	539	9.5	215	0	2,338.73
Badwater Cr at Badwater[c]	10	9.5	168	131	39	3.9	7.9	7.5	23	5.2	5.4	1.4	94	0.9	
Cheyenne River Basin		15.0	1,546	1,182	252	15.0	702	8.2					417		
Antelope Creek Dry Fork		4.8	2,188	1,701	20	19.2	985	7.7					881		

SOURCE: U.S. Department of the Interior, Geological Survey, 1980. Water Resources Data for Wyoming: Vol 1.: Missouri River Basin. Water Data Report WY-79-11.

NOTE: Flow-weighted average values are computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A flow-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

a. Sum of Constituents.

b. Datum for 6/29/79 only.

c. Casper District records.

TABLE 3-33

SURFACE WATER QUALITY ON EPHEMERAL STREAMS BY MAJOR DRAINAGE IN NATRONA COUNTY (three year average)

Basin	Water Temperature	Electro-Conductivity	TDS	TSS
Bates Hole	15.0C	1,171	1,168	4,979
Salt Creek	18.8C	4,356	3,940	712
South Fork Powder	13.9C	3,975	2,136	25,246
Badwater	11.8C	2,017	1,660	250

SOURCE: Casper District surface water monitoring records.

NOTE: Detailed records are available at the Casper District Office.

TABLE 3-34

EFFECT OF RANGE CONDITION ON TOTAL SUSPENDED SOLIDS

Drainage	Area	Channel Length	Range Condition	Average TTS (milligrams per liter)
Bolton Cr.	47.5 sq. mi.	25.2 mi.	59.95%	1,834.6
Bear Cr.	54.1 sq. mi.	20.4 mi.	62.38%	2,494.2
Ledge Cr.	17.7 sq. mi.	13.4 mi.	57.68%	3,049.5

NOTE: Average TSS = f (range condition x drainage area/ channel length).

cubic meter. Air quality degradation is localized in and near populated areas and mining activites where particulate levels are significantly higher than background levels.

Table 3-37 indicates locations of point sources emitting 100 or more tons of pollutants per year on a continuing basis and figure 3-1 illustrates their locations. Table 3-38 shows amounts of pollutants present at various locations in the PRRA and figure 3-2 shows the locations of DEQ air quality monitoring stations.

Pollutant Sources

Pollutant discharges from the Amoco refinery in Casper in 1982 were 0.663 ton of particulates per day, 1.493 tons of nitrogen dioxide per day, and 12.10 tons of sulfur dioxide per day. The 1982 discharges from the Little America refinery in Casper were 0.184 tons of particulates per day, 0.966 ton of nitrogen dioxide per day, and 15.9 tons of sulfur dioxide per day. No information is available on pollutant discharges from the Glenrock refinery in Glenrock.

Little change from current levels is expected for the Amoco refinery within the ten-year planning period. No projections are available on future emissions from the Little America refinery. Little America has submitted a permit application for discharges to the Air Quality Division of the Wyoming DEQ.

No information is available on pollutant discharges from the Glenrock refinery in Glenrock. (Information is from Chuck Raffelson, Air Quality Division, Wyoming DEQ; 1983.)

Formations that produce hydrogen sulfide gas are known to exist in southeastern Natrona County in T31N - T35N, R77W - R79W, and in southwestern Converse County in T29N - T35N, R72W - R77W. Hydrogen sulfide is produced as a byproduct of secondary techniques in the Salt Creek oil field, which surrounds the towns of Midwest and Edgerton in northeastern Natrona County. Levels of hydrogen sulfide at the Salt Creek field are discussed in detail in the Salt Creek Drainage Hazardous ACEC Plan, which is on file at the PRRA office. Amoco Production Company has been flaring produced hydrogen sulfide in this field. Information is not available in improvements to air quality resulting from flaring.

NOISE

The average noise level in the PRRA ranges from 30 to 40 dB(A). (See the Glossary for a discussion of decibel ratings.)Higher noise levels occur near urban areas, mining developments, major arterials, railroads, and airports, where the noise level may reach 140 dB(A). Table 3-39 gives examples of noise levels from difference sources.

TABLE 3-35
MAJOR BASINS AND AQUIFERS

Basin	Aquifer	Dissolved Solids mg/l[a]	Well Yields Gal./Min.	Formation Composition	Quality	Use
Powder River	Quaternary alluvium	500 to 1,500	Few up to 1,000	Alluvial	Fair to poor for domestic. Good to poor for livestock.	Domestic and livestock
	Wasatch	500 to 1,500	10 to 500	Sandstone, shale, coal	Same as above	Domestic and livestock
	Fort Union	500 to 3,000	150	Sandstone, shale, coal	Same as above	Domestic and livestock
Cheyenne River	Fox Hills	more than 1,000	500	Sandstones	Fair	Domestic and livestock
	Inyan Kara	300 to 3,000	300	Sandstones	Good to poor	Domestic and livestock
Platte River	Alluvium	250 to 1,500	High	Sand, gravel	Good	Municipal, industrial, irrigation, domestic, and livestock
	Arikaree		Variable	Sandstone		Domestic and livestock
	Casper	200 to 300	Variable	Pre-Tertiary	Good	Domestic, livestock, irrigation
	Hartville	Up to 400	Up to 175	Pre-Tertiary	Good	Livestock, domestic
	Tensleep	300 to 3,000	Variable	Sandstone	Good to poor	Domestic and livestock
	Madison	Average 3,000	less than 4,000	Limestone and dolomite	Good to poor	Municipal, industrial irrigation

a. mg/l = milligrams per liter

TABLE 3-36
FEDERAL AND WYOMING AIR QUALITY STANDARDS

		Ambient Air Quality Standards					
		Federal Primary Standards[a]		Federal Secondary Standards[a]		Wyoming State Standards[b]	
Pollutant	Averaging Time	mcg/m^3*	ppm*	mcg/m^3	ppm	mcg/m^3	ppm
Sulfur dioxide (SO_2)	Annual arithmetic mean	80	0.03			60	0.02
	24-hour	365	0.14			260	0.10
	3-hour			1,300	0.50	1,300	0.50
Total suspended particulates (TSP)	Annual geometric mean	75		60		60	
	24-hour	260		150		150	
Nitrogen dioxide (NO_2)	Annual	100	0.05	100	0.05	100	0.05

Maximum Allowable Increments
for Prevention of Significant Deterioration
in Class I, Class II, and Class III Areas

Pollutant	Class I (mcg/m^3)	Class II (mcg/m^3)	Class III (mcg/m^3)
Particulate matter			
Annual geometric mean	5	19	37
24-hour maximum	10	37	75
Sulfur Dioxide			
Annual arithmetic mean	2	20	40
24-hour maximum[c]	5	91	182
3-hour maximum	25	512	700

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* Abbreviations: mcg/m^3 = micrograms per cubic meter; ppm = parts per million.

a. Title 40 CFR Part 50, National Ambient Air Quality Standards (standard for averaging times of less than one year are not to be exceeded more than once a year). The U.S. Environmental Protection Agency (EPA) set primary and secondary National Ambient Air Quality Standards (NAAQS) in April 1971. The primary standards were established to protect human health, whereas the secondary standards were established to protect the public welfare from any known or anticipated adverse effect.

b. Wyoming Ambient Air Quality Regulations as amended in 1975 (standards for averaging times of less than one year are not to be exceeded more than once a year).

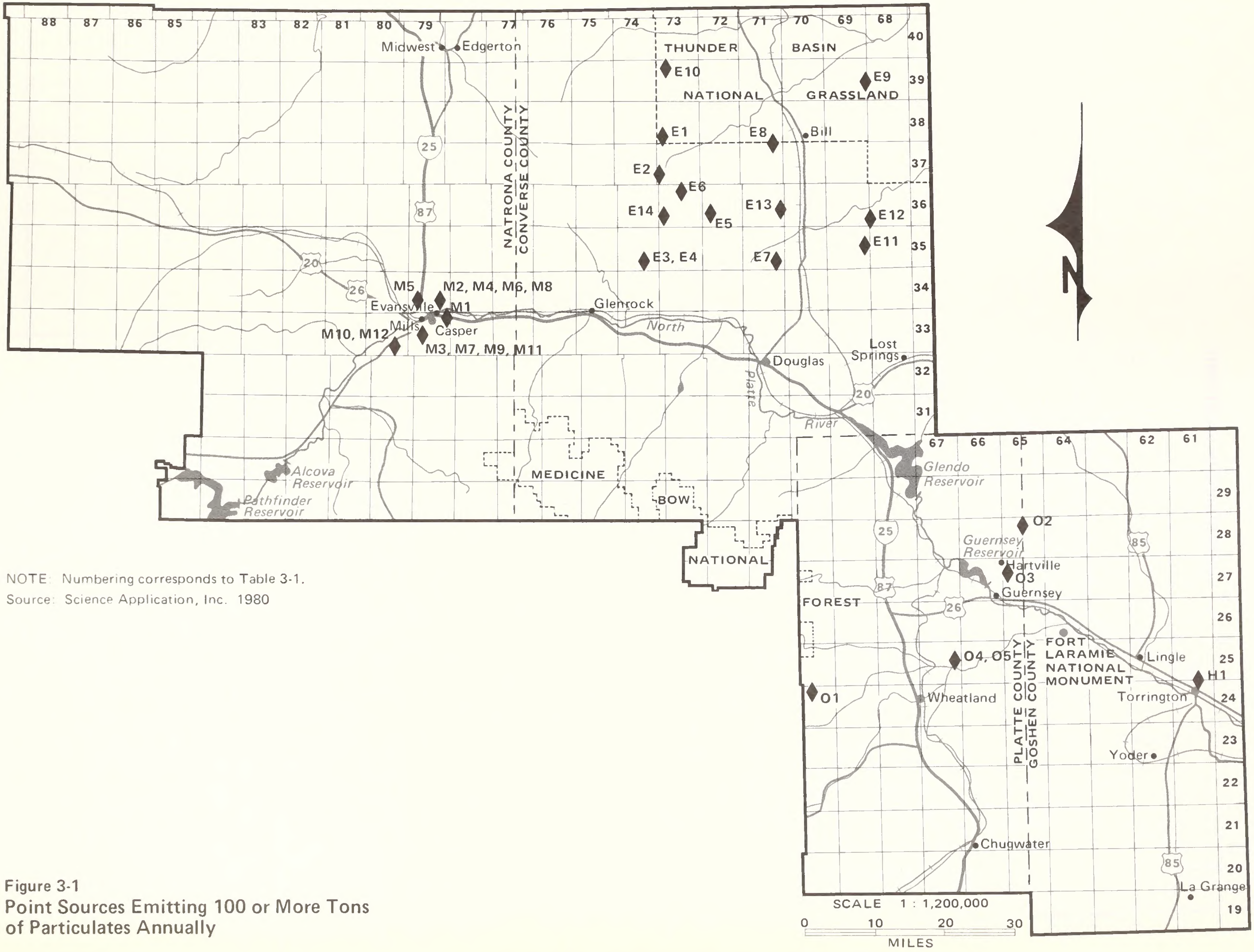
c. May be exceeded once per year.

TABLE 3-37
WYOMING BASED COMPANIES EMITTING 100 OR MORE
TONS OF POLLUTANTS PER YEAR

Site	County	Name	Current Status (if different)[a]
E-1	Converse	Bear Creek Uranium	
E-2	Converse	Kerr-McGee Nuclear	Standby open
E-3	Converse	Pacific Power and Light Coal Mine	(Glenrock coal)
E-4	Converse	Pacific P. and L., Dave Johnston Power Plant	
E-5	Converse	United Nuclear	Now Silver King Mines, Inc. (no longer in operation)
E-6	Converse	United Nuclear	Same as above
E-7	Converse	Panhandle Eastern Pipeline Co., Douglas	No longer in operation
E-8	Converse	PEPL Co., Mikes Draw	
E-9	Converse	PEPL Co., Poison Draw	
E-10	Converse	PEPL Co., Poison	
E-11	Converse	PEPL Co., Hogs Draw Field Booster	
E-12	Converse	PEPL Co., Well Draw Booster	
E-13	Converse	PEPL Co., Yoss Booster	
E-14	Converse	Exxon, USA	Expected to shut down in spring 1984
H-1	Goshen	Holly Sugar	(also has a limestone quarry north of Guernsey)
M-1	Natrona	C.J. Abbott, Inc.	Portable, not permitted by DEQ
M-2	Natrona	Amoco Oil Co.	
M-3	Natrona	Benton Clay Co.	Does not produce 100 tons per year
M-4	Natrona	Black Hills Bentonite (Kaycee Bentonite)	
M-5	Natrona	Boatwright-Smith	Does not produce 100 tons per year
M-6	Natrona	Casper Concrete	Does not produce 100 tons per year
M-7	Natrona	Great Lake Carbon	No longer in operation
M-8	Natrona	Little America Refinery	
M-9	Natrona	McMurray Brothers	Portable
M-10	Natrona	Rissler McMurray	Portable
M-11	Natrona	Texaco, Inc.	No longer in operation
M-12	Natrona	Benton Clay Co.	Same as M-3
O-1	Platte	Basin Engineering	
O-2	Platte	Colorado Fuel and Iron	Shut down in 1980
O-3	Platte	Guernsey Stone	
O-4	Platte	Missouri Basin Power Project	
O-5	Platte	Basin Electric, Laramie River Station	Same operation as O-4

SOURCE: Science Applications, Inc., "Final Report: Baseline Climate and Air Quality for BLM Lands in Wyoming" (1980).

a. Information updated December 12, 1983, by personal communication with Chuck Raffelson of Wyoming Department of Environmental Quality.



NOTE: Numbering corresponds to Table 3-1.

Source: Science Application, Inc. 1980

Figure 3-1
Point Sources Emitting 100 or More Tons of Particulates Annually

TABLE 3-38
AIR QUALITY IN PLATTE RIVER RESOURCE AREA
SEASONAL AND ANNUAL ARITHMETIC MEANS AND MAXIMUM VALUES OF POLLUTANTS
IN 1978

Total Suspended Particulates
(in micrograms per cubic meter)

	Winter		Spring		Summer		Fall		Annual	
Monitor Location	Mean	Max	Mean	Max	Mean	Max	Mean	Max	Mean	Max
Casper	63	150	116	179	NA	NA	56	71	73	179
Burk Ranch	19	34	18	29	53	NA	NA	NA	22	53
Douglas (north)	10	28	12	35	20	68	26	35	17	68
Irene Ranch	13	27	25	87	26	48	36	118	25	118
Lingle	13	29	27	77	33	68	42	119	29	119
Wheatland (north)	17	28	9	24	16	26	19	31	14	31
Torrington	22	43	27	62	39	64	NA	NA	27	64
Bill (Newcastle)	10	20	17	46	23	39	NA	NA	16	46
Wheatland (city center)	25	74	49	194	45	63	54	96	44	194

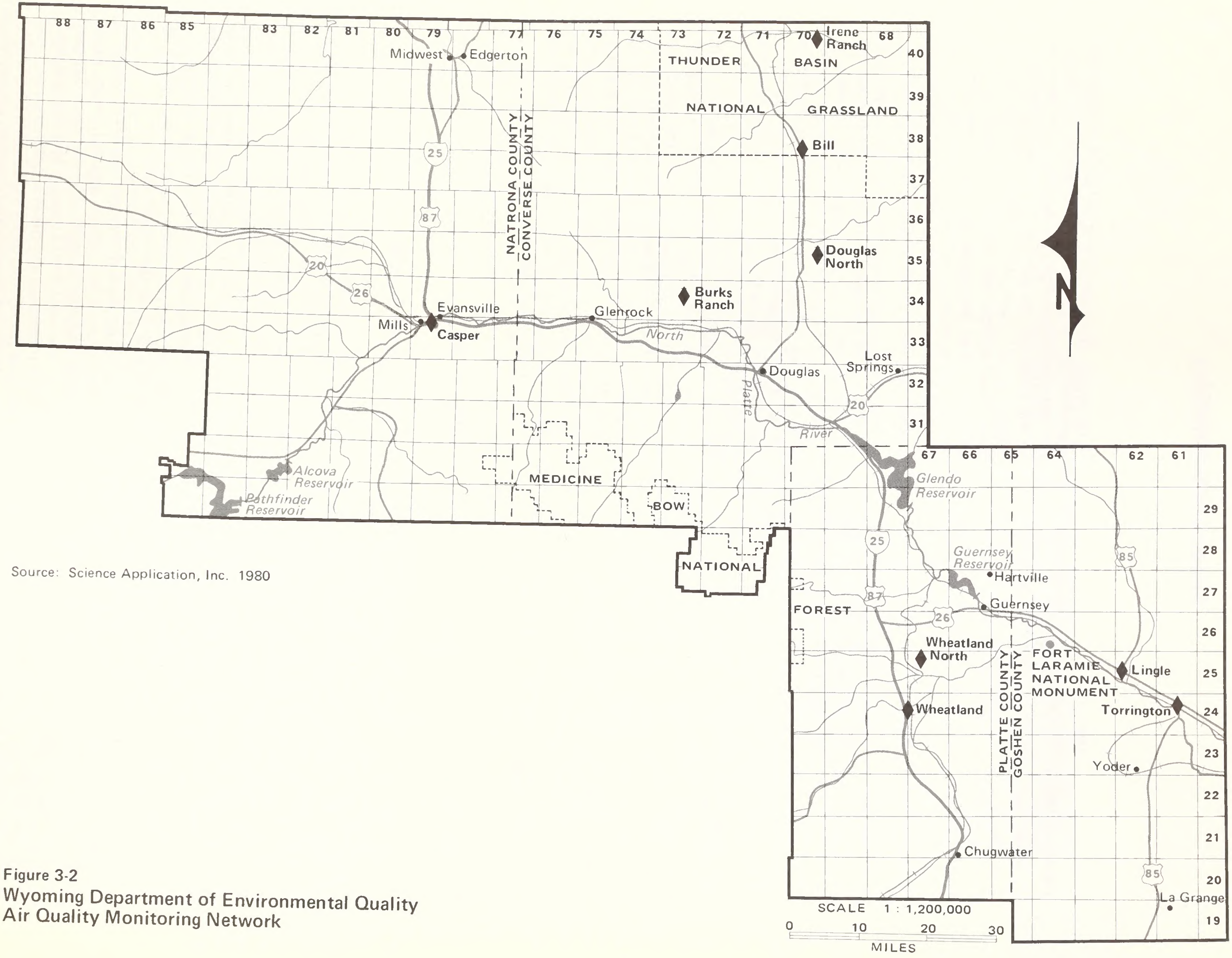
Nitrogen Dioxide
(in micrograms per cubic meter)

	Winter		Spring		Summer		Fall		Annual	
Monitor Location	Mean	Max	Mean	Max	Mean	Max	Mean	Max	Mean	Max
Casper	22	47	28	48	NA	NA	31	62	26	62
Irene Ranch	2	8	6	10	5	8	2	5	4	10
Wheatland	6	15	6	11	4	8	5	8	5	15

Sulfur Dioxide
(in micrograms per cubic meter)

	Winter		Spring		Summer		Fall		Annual	
Monitor Location	Mean	Max	Mean	Max	Mean	Max	Mean	Max	Mean	Max
Casper	8	28	4	24	0	0	0	0	6	28
Irene Ranch	0	1	0	1	0	2	0	1	0	2
Wheatland	0	1	0	1	1	4	0	1	0	4

SOURCE: Science Applications, Inc., "Final Report: Baseline Climate and Air Quality for BLM Lands in Wyoming," (1980)



Source: Science Application, Inc. 1980

Figure 3-2
Wyoming Department of Environmental Quality
Air Quality Monitoring Network

TABLE 3-39

TYPICAL DECIBEL READINGS FOR SOME NOISE SOURCES

Source	Noise Level [dB(A)]at the Source	
Soft whisper (15 feet)	0-3	Threshold of hearing
Probable rural prairie or wilderness background noise level	30	Very quiet
Normal conversation	60	
Urban freeway	75-80	Annoying
Heavy truck	90	
Single-cylinder pumpjack engine (unmuffled)	95-100	
Diesel engine for exploratory drilling (unmuffled)	100-112	
Thunderclap	120	
Jet takeoff	140	Threshold of pain

SOURCE: United States, Department of the Interior, Bureau of Land Management, *Programmatic Environmental Assessment for Oil and Gas Leasing in the Platte River Resource Area,* EA no. WY-062-1-13 (Casper, WY, 1982).

NOTE: See the Glossary for a disucssion of decibels (dB) and "A" weighted decibels [dB(A)].

CLIMATE

The PRRA has a temperate, semiarid climate, with large seasonal variations in temperature and precipitation. Prevailing winds are southwesterly, but they are affected by local topography. The growing season is short but varies somewhat throughout the resource area. Fluctuations of temperatures and precipitation may vary dramatically from year to year.

The average annual precipitation varies from approximately 9.5 inches at Pathfinder Dam to more than 20 inches in the south Big Horns and the Laramie Mountains. The Casper Mountain precipitation station has averaged 31.86 inches of precipitation annually over the past 20 years. Averages throughout the plains portion of the resource area are 11 to 15 inches annually.

The bulk of the annual precipitation in the PRRA is received from moisture-laden easterly winds, particularly in the spring. Most of this precipitation is in the form of rain, although occasional heavy snowfall during this period is not uncommon. Summer precipitation is almost exclusively from thundershower activity, and under normal conditions it provides sufficient moisture to maintain the growth of rangeland grasses. Rapid runoff from thunderstorms may cause flash flood conditions, which contribute to erosion and other damages. Approximately 40% of the annual precipitation occurs between the 32-degree freeze-free dates, and approximately 50% occurs between the 28-degree freeze-free dates.

The average growing season is 125 days. The northern and western parts of the resource area receive insufficient moisture for the growth of agricultural crops; consequently, the area is used primarily for range. The area south of the Platte River receives more precipitation and has more available surface water; therefore, more ranches produce field crops.

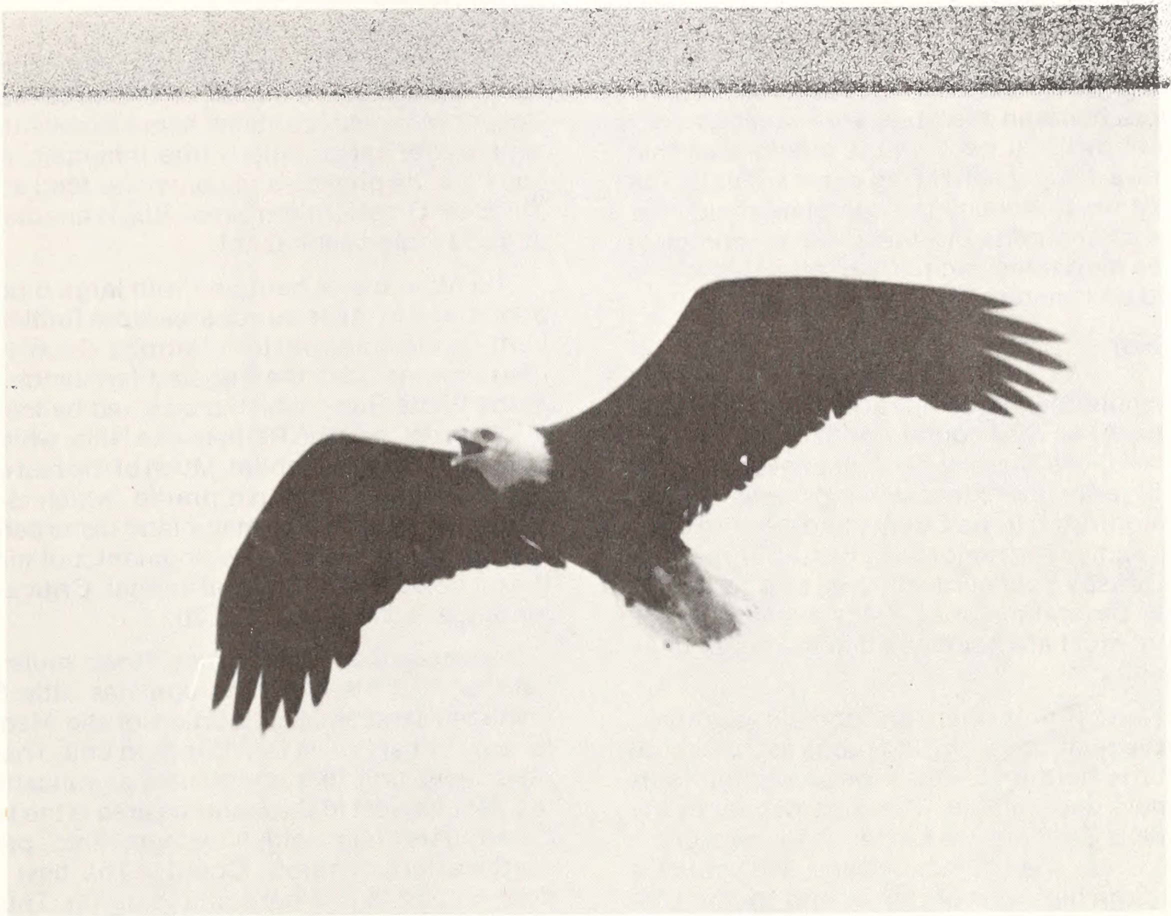
The prevailing winds are southwesterly, with some downslope effect from west to northwest. Winds are relatively strong over the resource area, with the strongest ones occurring during daylight hours. The annual average is around 12 miles per hour, with the winter and spring average 15 miles per hour and the summer average 7 to 10 mph. Strong winds of 30 to 40 mph with higher gusts can prevail for a few days, and there are occasional periods with very light winds.

WILDLIFE

Endangered Species

Two bird species listed as endangered by the USFWS occur in the resource area, peregrine falcons and bald eagles. The peregrine falcon is a likely resident during the fall migration season, although the number of birds is low. The Bureau of Reclamation conducted intensive searches of the best potential nesting habitat along the Platte River, but no sign of nesting peregrines was found. The survey included Fremont Canyon, Wendover Canyon, and the cliffs surrounding Glendo and Guernsey reservoirs.

The bald eagle is a common winter resident in the resource area, where several large night roosts are known to exist. The Jackson Canyon roost on the west end of Casper Mountain is used by more birds than any other roost in the resource area. It is one of the most significant bald eagle roosting areas in the Rocky Mountain region. The USFWS has cooperated with the BLM in studying



the population using Jackson Canyon to determine the daily movement patterns to and from the roost area. The birds range widely from Jackson Canyon, pick up dead fish from open sections of the North Platte, and wander far out onto the rangelands surrounding Casper Mountain. Bald eagle habitat is identified on map 19.

Other known bald eagle winter roosting sites are Boxelder Canyon in Converse County, Little Red Creek Canyon near Jackson Canyon, and several sites on Pine Mountain, and Antelope Creek on the Converse-Campbell County line. The birds also are commonly observed near Glendo and Guernsey Reservoirs, especially in late winter when they are staging for their return flight north in early spring.

A more detailed discussion of bald eagles in the resource area appears unit resource analysis for the Natrona Planning Unit. This BLM planning document is on file at the PRRA office.

The black-footed ferret is the only mammal species listed by the USFWS that may occur in the resource area. Recent and historic records of the ferret compiled by Clark (1977) indicated several positive sightings of ferrets in Natrona County. Researchers working for the USFWS found recent skulls and skeletons of ferrets in a prairie dog town near Seminoe Reservoir in Carbon County in 1979. The discovery a few years ago of a group of ferrets near Pitchfork, Wyoming, has confirmed the continued presence of ferrets in the state. The part of the resource area where the possibility of finding ferrets is greatest is an area west of Casper that is inhabited by white-tailed prairie dogs. White-tailed prairie dogs have not been heavily poisoned in the past.

Big Game

Mule deer, pronghorn antelope, and elk are the major big game species in the resource area. All big game herds in the state are managed on a herd unit basis. A herd unit is a land area that supports a distinct herd of big game animals. The resource area contains ten complete mule deer herd units and parts of others, eleven complete antelope herd units and parts of others, and two elk herd units and parts of others.

Mule Deer

Four mule deer herd units and part of one other in the resource area contain large blocks of public surface. The Ormsby herd unit covers most of Pine Ridge and the extensive sand dunes country in east central Natrona County and western Converse County. The major land-disturbing activity in the Ormsby deer herd unit is oil and gas development. Several major oil fields exist within the area, but most are not located in the better mule deer habitat.

The North Natrona herd unit contains saltbush-steppe vegetation in large portions of the central part of the herd unit. This type of vegetation is poor mule deer habitat. The best habitat in the herd unit is in a band 2 to 6 miles wide south of the Buffalo Creek road. Other heavily used habitat is in the rough hills west of U.S. 87 and south of the Teapot Dome turnoff. The sand hills north and east of Goldeneye Reservoir also are heavily used. The major land-disturbing activity in the herd unit is oil and gas development, especially in the Notches Dome area.

The Badwater herd unit is in the northwestern corner of Natrona County. A large block of public land straddles Badwater Creek and runs northwest across the Sioux Creek drainage. Most of the unit is part of the southern Big Horn Mountains and is good mule deer range. Topography, small conifer groves, and upland aspen groves provide escape and thermal cover in most of the hunt area. Near the east boundary of the hunt area, mountain mahogany is an important cover and forage species. Mule deer rarely use the lower plains north of U.S. Highway 20-26.

South of Casper is the Bates Hole-Hat Six herd unit. Continuing land development around Casper is reducing available habitat and deer numbers in this portion of the herd unit. The Muddy Mountain-Casper Mountain area, which contains large blocks of public and state lands, receives the highest amount of hunter use in Natrona County and the second highest amount of hunter use in the PRRA.

The best habitat for mule deer is on the southwest flank of Casper Mountain. The area east of Casper Mountain contains some excellent mule deer winter range where true mountain mahogany stands provide a major winter feed source. The Bear Creek-Bolton Creek Rim is another area of good mule deer habitat.

The other major herd unit with large blocks of public land in the resource area is the Rattlesnake herd unit in southwestern Natrona County. This herd unit includes the irrigated farmlands north of the Platte River, which are served by the Kendrick Canal, and the Rattlensake Hills, which are the best mule deer habitat. Much of the rest of this unit is rolling sagebrush prairie, which is poor mule deer habitat. The major land disturbance in this unit is oil and gas development, but most of the oil fields are in marginal habitat. Critical winter range is shown on map 20.

Converse County contains three mule deer herd units. This herd unit contains little BLM-managed land. A large portion of the Medicine Bow National Forest is in this herd unit. The only other herd unit that contributes significantly to the deer harvest in the resource area is the Lance Creek herd unit, which extends into part of northwestern Niobrara County. The best mule deer habitat in this herd unit is on the Thunder Basin National Grassland in Converse County.

Antelope

Of the 11 antelope herd units in the resource area, 4 contain significant amounts of public lands. Two other herd units that overlap the resource area also contain large blocks of public lands.

The Ormsby herd unit northwest of Casper contains excellent habitat. The sand dunes northeast of Casper are the best habitat in the herd unit. Water is a problem in the southern half of the herd unit in late summer and fall because some livestock operators shut off their wells when they remove their stock from a particular pasture. This causes the antelope to concentrate on the deeded and leased BLM lands of some operators, which contributes to forage overuse.

The Ormsby herd unit is losing some of its better yearlong habitat to commercial and residential developments as Casper expands north of the North Platte River. Extensive oil fields at Cole Creek, Big Muddy, and Salt Creek, as well as

other fields in various parts of the area, also account for some habitat loss.

The North Natrona antelope herd unit boundaries correspond closely with the boundaries of the North Natrona deer herd unit. The best habitat in the herd unit is in the sandy areas north of Goldeneye and Natrona and the rolling sagebrush plains running through the middle of the area. Crop depredation problems occur in the irrigated lands northwest of the Natrona County Airport. Water may strongly influence seasonal distribution, since there are few natural water sources within the herd unit boundaries.

A portion of the Badwater herd unit extends into the northwestern corner of Natrona County. It contains a large amount of public land. Some of the public lands are only fair for antelope because drinking water is scarce and saltbush-steppe vegetation covers large areas. Crop damage does occur on the irrigated hay lands along Badwater Creek, but most of the perennial streams in this hunt area are in Fremont County, so most damage problems probably occur outside the PRRA.

South of U.S. 20-26 and north of Wyoming 220 is the Rattlesnake herd unit. The objective of the Wyoming Game and Fish Department has been to keep this population low by using liberal hunting quotas.

Water is a major factor in determining distribution in the summer and fall. Where irrigated hay fields exist, the antelope tend to congregate and cause damage. More than four sections of sagebrush-grassland in this area have recently been converted to dryland wheat. Whether this dryland farming is a trend or not remains to be seen. However, continued conversion would almost certainly increase crop damage.

A small portion of the Sweetwater herd unit overlaps Natrona County in the Alcova-Pathfinder area. This area contains large blocks of public lands with legal and physical access. Water distribution is poor in some areas, but Pathfinder Reservoir is accessible to antelope along most of its shoreline.

The Bates Hole-Hat Six herd unit includes the irrigated lands on lower Bates Creek. Most of the public lands in this area are on the west end of Casper Mountain and the southeast end of Coal Mountain, where habitat is poor for antelope. Bates Hole contains the best antelope habitat on public lands within the herd unit. The high plains above Bates Hole provide excellent spring-summer-fall range. Much of the water in this area is on private land. The animals tend to winter on the lower terraces containing big sagebrush or on the saltbush flat adjacent to Wyoming 487 south of Bates Creek.

The habitat quality west of Wyoming 487 to the Kortes Road is nearly as high as that of the country surrounding Bates Creek Reservoir; however, antelope numbers are lower because vegetation is less diverse and drinking water is scarce.

Of the remaining seven herd units in the resource area, only the Bear Creek unit contributes significantly to the overall statewide antelope harvest. All seven herd units are heavily harvested by nonresident hunters, whereas the herd units in Natrona County are hunted primarily by Wyoming residents. Critical winter ranges for antelope are illustrated on map 20.

Elk

The four elk herd units in the resource area are small. Escape and thermal cover may be the greatest natural limiting factor affecting the sizes of the herds. The harvest is limited under a permit system. The area with most public land is elk area 48 in northwest Natrona County. This area is part of the larger Copper Mountain-Nowood herd unit, most of which is in Washakie County. Public lands in the Natrona County part of the unit are legally accessible in most areas. This area has one of the highest hunter success ratios in the state.

The Rattlesnake herd unit lies partly in the Casper District and partly in the Rawlins District. Its isolated herd inhabits the higher portions of the Rattlesnake Hills. The public lands actually occupied by elk are in relatively small scattered parcels. The main cover type in the unit is limber pine. Mountain pine beetles have infested scattered stands of pine throughout the hills. Such an infestation could greatly modify the cover component of the elk habitat in this unit.

The Muddy Mountain herd unit southeast of Casper extends from Muddy Mountain and Banner Mountain to Deer Creek. This unit contains little public land, large blocks of state land, and some Forest Service land. Significant numbers of animals in this herd winter on the south-facing slopes on the east ends of Casper Mountain and Muddy Mountain.

Part of the Laramie Peak herd unit in south Converse County and west Platte County consists of foothills that are used as winter range. The elk use small, inaccessible parcels of public land along with larger blocks of private and state land.

Baldy Ridge and Squaw Mountain are two of the larger public land parcels at 3,000 acres and 2,000 acres, respectively. Critical winter range for elk is illustrated on map 20.

The populations of all big game herds in the resource area are at or above the objectives described in the "Strategic Plan" of the Wyoming Game and Fish Department. The 1990 herd objectives (defined in appendix J) are to reduce big game populations from current levels because populations are high and WGFD has had difficulty reducing them through harvests in the short term; because landowners want lower populations in areas where big game winter on private croplands or meadows; and because habitat has been reduced through conversion of rangelands to agriculture, urban expansion, and recreational and mineral disturbances in winter range. However, on native rangelands, overuse by big game over large areas is not apparent in the resource area. There may be localized areas of overuse where wildlife concentrate, especially during the winter.

Wildlife habitats are diverse on public lands. Habitat inventories have been conducted on most public lands in Natrona County. Appendix J presents a summary of the various types of special habitats surveyed during 1981 and 1982.

Upland Game and Waterfowl

Cottontails, red and fox squirrels, and snowshoe hares are the four small game mammals legally hunted in the resource area. The number of hunter days and total harvest for squirrels and snowshoe hare is insignificant in comparison with harvests and hunter use for game birds and cottontails.

The resource area contains a wide variety of upland game and waterfowl. Significant numbers of sage grouse, ducks, geese, and doves are harvested in the resource area.

Cottontails are a major source of hunting recreation in the resource area, especially in Natrona County. From 1977 to 1980, the cottontail harvest in Natrona County ranged from 9% to 22% of the total statewide harvest. Cottontail populations tend to be cyclic, with high numbers usually followed by drastic declines. These cycles are at least partially reflected in the harvest statistics presented in table 3-24 and 3-25. In 1980, the first year for which comparable figures are available, cottontail hunting in Natrona County accounted for 2,000 more hunter days than antelope hunting.

In the PRRA, pheasants are common only in Goshen County. Pheasant hunting pressure is heavy in the Table Mountain and Springer wildlife units. Hunting in these two units is mainly on a "put and take" basis. These are the only areas in the PRRA where a significant amount of pheasant hunting occurs on public lands.

Waterfowl are hunted throughout the resource area. In Natrona County, jump shooting on the larger livestock reservoirs is common. Wetlands inventory in the resource area has been conducted most extensively in northwest Natrona County. Of the reservoirs already inventoried, 66 are considered to have potential for further wetlands habitat development.

Four HMPs were written for specific reservoirs in Natrona County in the early 1970s, but to date none has been fully implemented. The only HMP that has been implemented in the resource area is in the Table Mountain Wetlands area in Goshen County. That habitat area is managed jointly by the BLM and the Wyoming Game and Fish Department. It receives a large amount of public use, especially during the fall waterfowl and pheasant hunting season.

Goose nesting structures have been placed at Goldeneye and Bates Creek reservoirs. Neither area has been used much by nesting geese. Nesting structures placed on the ponds at Table Mountain unit have been used extensively by Canada geese since the 1970s.

Sage grouse are most abundant in Natrona County, where the best habitat is the sagebrush-steppe country surrounding Bates Creek Reservoir. This area produces most of the sage grouse harvested in the resource area. Other good sage grouse habitat is in the upper reaches of the Bolton Creek drainage, the sagebrush flats near Fish Creek, and the lower foothills of the Rattlesnake Hills. Most of the better sage grouse habitat has legal access, or access to hunt is permitted by landowners in these areas.

Both chukar and Hungarian partridge occur in the resource area, but neither species is widespread. The scarcity of habitat is the main reason there is little recreational hunting of these birds.

Blue grouse and ruffed grouse are closely associated with the coniferous habitats of the Laramie Range. These birds are not found in the Rattlesnake Hills, even though the area appears to be suitable habitat. Both grouse species have

been hunted concurrently in the past, with no distinction made as to which species could be taken. Both species do best in a mixture of habitat sites; the optimum habitat is probably aspen and meadows intermixed with unevenly aged conifer. The best habitat for blue grouse and ruffed grouse in the PRRA is on Muddy Mountain and Banner Mountain, and south from those mountains to the Ice Cave Mountain area.

Mourning doves are common throughout the resource area in the summer. Brood production and subsequent fall harvest are strongly tied to late spring and summer precipitation because high brood production in doves depends on seed production and the availability of sufficient water.

Since the opening date of the dove hunting season is regulated by treaty, the birds often have migrated out of the area just before or immediately after the beginning of the season. Mourning doves tend to congregate more around irrigated haylands; therefore, it is likely that most of the harvest takes place on private lands.

Furbearers

The main furbearer species trapped for commercial purposes are the coyote, red fox, bobcat, mink, beaver, and badger. In recent years the coyote and bobcat have been heavily exploited because fur prices have been high. Statewide statistics are published by the Wyoming Game and Fish Department, but no statistics are available to show the harvest by individual counties.

Aside from their value as furbearers, coyotes contribute to depredation on sheep herds, which can be serious at times in the resource area. The seriousness of the problem depends on the individual operation.

Beaver have greatly modified streamside aspen habitat in parts of the resource area by removing all of the trees. Beaver may disrupt agricultural operations in some areas of irrigated croplands by damming culverts and irrigation ditches.

Nongame Mammals

A variety of nongame mammals can be found in the resource area; the most common is the deer mouse, which is found in virtually every habitat. A complete list of the nongame mammals in the resource area is available at the PRRA office. Two nongame species in the resource area, the black-tailed prairie dog and the porcupine, can cause economic loss.

The black-tailed prairie dog is found in the plains of eastern Natrona County, in almost all of Converse County, and in some of the rangelands in Platte and Goshen counties. High burrow densities are common in black-tailed prairie dog towns. This species does not hibernate in winter but remains active yearlong and thus removes more vegetation than do white-tailed prairie dogs. Along with a large dietary overlap with cattle, these characteristics make the black-tailed prairie dogs a major competitor with cattle in certain areas.

Extensive poisoning campaigns have been conducted in the past to eradicate prairie dogs throughout eastern Wyoming. Most remaining prairie dog towns are on private or state land in the resource area. Locations of prairie dog towns, both black-tailed and white-tailed, are shown on map 20.

Reptiles and Amphibians

Reptiles and amphibians are poorly represented throughout Wyoming. The relatively short summers and long cold spells through mid-spring make environmental conditions too harsh to support a wide variety of species. Distribution of many species is closely tied to the presence of heavy cover near perennial streams.

Fishes

Fishing is a major activity in the resource area. There are four major reservoirs on the North Platte River, and all of them receive substantial fishing pressure. The reservoirs are managed by the Bureau of Reclamation, with state or county agencies administering public use areas. Fisheries management in these reservoirs is mainly on a "put and take" basis.

Goldeneye Reservoir is a BLM project reservoir west of Casper. In recent years this reservoir has received increasing amounts of public use as a favored fishing spot. Problems with trash fish finally caused the Wyoming Game and Fish Department to apply rotenone poison to the reservoir in the fall of 1982. The next spring brought record high levels of runoff into the reservoir. This provided a much-needed flushing, removing water with high salt content. Trout were planted in the reservoir later that spring, but fishing pressure was low during the summer of 1983.

The North Platte River between Alcova and Casper receives heavy fishing pressure. Vehicular access is not available to all parcels of public land, but areas to which access is available are heavily used. The river is stocked annually with approximately 100,000 rainbow trout fingerlings. There is an established population of brown trout in this section of the river.

Stream fishing is limited in both quantity and quality. Most sections of perennial streams crossing BLM land are too short to manage effectively. Many streams do not support sustainable game fish populations. Legal access does not exist for most streams crossing public lands. Table 3-40 lists the fish species in streams and reservoirs with public access in Natrona County.

One aquatic HMP has been written for Bates Creek, but it has not been implemented. There is potential for HMPs in a number streams in the southern Big Horn Mountains.

Most potential fisheries streams on public land in Natrona County were surveyed in 1981 and 1982. Many of the tributaries of Badwater Creek were found to be incapable of supporting game fish because of insufficient flow and low pool-riffle ratios. Upper Bates Creek was found to be in excellent condition, but the section below the Old Medicine Bow Highway was in poor condition from excessive siltation and poor stream bank cover. The results of the stream surveys are on file in the Casper District office.

TABLE 3-40
GAME FISH SPECIES IN STREAMS AND RESERVOIRS WITH PUBLIC ACCESS
IN NATRONA COUNTY

Water Body	Species							
Name	Brook Trout	Rainbow Trout	Brown Trout	Yellowstone Cutthroat	Snake River Cutthroat	Channel Catfish	Walleye	Ohrid Brown Trout
Trout Creek	x							
Badwater Creek	x							
Sioux Creek	x							
Clear Creek	x							
Orin Creek	x							
Lichty Creek	x							
Valdez Creek	x							
Buffalo Creek			x					
North Buffalo Creek	x							
Middle Fork Buffalo Creek.	x							
North Platte River		x		x		x	x	
Bates Creek	x	x	x					
Alcova Reservoir		x						
Pathfinder Reservoir		x	x		x			
Camel Hump Reservoir		x						
Railroad Grade Reservoir .		x						
Goldeneye Reservoir.......		x		x				x

Nongame Birds

The variety of nongame birds in the resource area is high. The highest number of species is found in woody riparian habitats, especially where this type of habitat interfaces with sagebrush-steppe and coniferous habitats. Most nongame birds are migratory; they begin arriving in mid-March and normally are gone by late September.

Most of Natrona County, except Pine Ridge, has been surveyed by helicopter for raptor nests. Other parts of the resource area have been surveyed in support of special projects such as coal unsuitability planning in Converse County.

The Fremont Canyon area was intensively searched by Bureau of Reclamation personnel in 1979 and 1980. That survey was specifically looking for peregrine falcons. Although no nesting peregrines were found, a number of nesting sites for prairie falcons and golden eagles were found in Fremont Canyon. Other raptor nesting concentrations are on the Red Wall, Pine Mountain, Ledge Creek Cliff, Bates Hole Rim, and the cliff areas in the Notches Dome area.

The most common raptors in the resource area are the kestrel, marsh hawk, harrier, golden eagle, red-tailed hawk, great horned owl, and ferruginous hawk. Prairie falcons, Swainson's hawks, burrowing owls, Cooper's hawks, sharp-shinned hawks, and goshawks all nest in the resource area but are less commonly seen. All known nesting sites in the resource area are on file in the Casper District office.

The burrowing owl and Cooper's hawk are both considered rare by the Wyoming Game and Fish Department. Burrowing owls are closely tied to prairie dogs because the owls cannot construct their own burrows. Burrowing owls are in the area from late spring to early fall. The Cooper's hawk is found in the PRRA mainly during the breeding season, when it nests in dense riparian tree groves or in upland forests.

SPECIAL DESIGNATIONS

Areas of Critical Environmental Concern

Four areas have been designated as areas of critical environmental conern. These are Salt Creek, Red Wall, Jackson Canyon, and the Alcova

Pterodactyl tracks. These areas are shown on map 21.

Salt Creek ACEC

The Salt Creek ACEC covers 346,700 acres. The ACEC management plan has been implemented to reduce environmental damage and associated impacts from mineral production in the Salt Creek drainage. This will enhance air and water quality, promote public safety, increase resource utility, improve the visual resource quality, and enhance vegetation growth. The ACEC was established to address watershed and environmental problems created by 80 years of intensive oil development.

Red Wall ACEC

The Red Wall, which was designated an ACEC in March 1980, contains 8,700 acres. The Red Wall is a prominent geologic uplift of the Chugwater formation. The reddish colors have a high visual presence when viewed from the south Big Horns, making the uplift a scenic landmark. Historically, this landmark contains Rough-lock Hill, the Sioux Trail, and the Hole-in-the-Wall. Cultural values are high and relatively undisturbed.

The Red Wall has an abundance of cliff-nesting raptors. Nests of golden eagles and hawks have been observed.

So that the high scenic quality may be preserved, ORV use is limited to designated roads and trails on 32,295 acres, or ½ mile to either side of the Red Wall. No surface development is allowed in the area.

Management opportunities exist for the protection and interpretation of cultural, historical, wildlife, geological, archeological, and visual resource values.

Problems that have occurred are uncontrolled ORV use, trespass on public and private lands, and access to public land. There are no facilities, and no maintenance is carried out.

Pterodactyl Track ACEC

The 1,200-acre Pterodactyl Track ACEC has a draft management plan. The tract is available for oil and gas lease and exploration; parts of the area are under lease. No surface development is allowed on the entire tract.

Jackson Canyon ACEC

The 3,600-acre Jackson Canyon ACEC has a preliminary draft management plan. The area is managed primarily to protect bald eagle winter roosts. Restricted activities include oil and gas development, winter recreation, and access improvement. Pine beetle infestation in Jackson Canyon has temporarily increased management for short-term, intensively regulated actions to thin stands of beetle-infested trees that threaten the eagle roosts.

Natural Area

The 1,260-acre Muddy Mountain Environmental Education Area is primarily managed for recreation, wildlife habitat, forestry, and environmental education. There are two campgrounds, one interpretive center, two nature trails, a winter snowmobile area, a forest demonstration area, and a natural area. The 700-acre natural area is protected from resource development.

Fragile Area

The 13,560-acre Casper Sand Dunes area is about 10 miles northeast of Casper and extends into Converse County. The dune field, which is the most dominant feature in the area, provides visual relief from the surrounding landscape. The sand dunes vary in length from 100 to 500 yards, and some reach a height of 300 feet. There are example of both active and inactive dunes. Pioneer grasses can be seen on many of the dunes. The contrast between the grasses and the sand is the major variation in color.

The high erosion due to surface disturbance and the long time needed for rehabilitation make this a fragile environment. ORV designation limits travel to designated roads and trails. There is no legal public access.

The sand dunes have potential for such recreation pursuits as sightseeing, hunting, backpacking, hiking, wildlife observation, and environmental education. Fall hunting for antelope is the primary recreation activity at this time.

SOCIOECONOMIC CONDITIONS

Sales, Income, and Employment

Table 3-41 presents total sales and personal income by county and major industrial sector in the PRRA. Table 3-42 presents employment and salaries and wages by county and major industrial sectors in the PRRA. The sales are based on the projected industrial developments in the region hat are presented in appendix F. Employment is based on sales levels as well as the projected industrial developments.

The recent recession has affected the PRRA as a whole but was felt most acutely in Converse County, where the depressed uranium industry, coupled with slower growth in oil and gas activity, will result in a significant decline in sales, income, and employment through 1985. By 1990, however, a long-awaited strengthening of uranium markets, coupled with increased coal mining and increased activity in the services and other sector, will strengthen the county's economy. The same factors have affected the economy in Natrona County; however, because of a relatively high, stable levels of sales in the manufacturing sector and strengthening of sales in the "transportation, utilities, and communication" (T.U.C.) sector, as well as wholesale trade and other sectors, the Natrona County economy should remain relatively flat through 1985, rather than presenting any pronounced decline.

The same should be true for Goshen County. Because of a dominant, stable level of sales in the manufacturing sector, coupled with relatively high, stable levels of sales in the agricultural sector, the Goshen County economy should not present any significant decline through 1985.

The economy of Platte County is unique in the PRRA in the sense that it will experience a significant downturn and will strengthen only slightly by 1990. This is because the dominance of the mining and construction sectors in the county's economy of recent years has ended with the closing of the CF&I Iron Mine at Sunrise and the completion of the Missouri Basin Power Project at Wheatland.

TABLE 3-41
ESTIMATES OF PERSONAL INCOME BY COUNTY, AND SALES ESTIMATES
BY COUNTY AND SECTOR IN 1980 FOR THE CASPER DISTRICT
WITH PROJECTIONS FOR 1985 AND 1990[a]
(rounded to the nearest million dollars; figures may not add due to rounding)

County/Industry Group	1980 ($ million)	1985 ($ million)	1990 ($ million)	County/Industry Group	1980 ($ million)	1985 ($ million)	1990 ($ million)
Natrona County				Platte County			
Personal Income	1,055	1,074	1,104	Personal Income	125	72	74
Total Sales	2,715	2,733	2,892	Total Sales	285	170	179
All mining	302	279	285	Mining and			
Coal mining[b]	(---)	(---)	(---)	Construction[f]	126	---	---
Oil and gas[b]	(252)	(256)	(263)	Manufacturing	36	36	36
Other mines[b]	(50)	(22)	(22)	T.U.C.[c]	21	41	43
Construction	288	282	294	Wholesale trade	5	5	6
Manufacturing	823	823	832	Retail trade	14	15	17
T.U.C.[c]	342	359	385	F.I.R.E.[d]	13	13	15
Wholesale trade	327	331	375	Agriculture	31	32	32
Retail trade	123	126	145	All other[e]	39	28	30
F.I.R.E.[d]	191	194	218				
Agriculture	22	22	22				
All other[e]	297	317	336				
Converse County				Goshen County			
Personal Income	185	149	196	Personal Income	101	104	104
Total Sales	1,175	986	1,280	Total Sales	366	369	384
All mining	872	688	935	Mining and			
Coal mining[b]	(20)	(25)	(142)	Construction[f]	23	22	23
Oil and gas[b]	(495)	(507)	(524)	Manufacturing	134	134	137
Other mines[b]	(357)	(156)	(269)	T.U.C.[c]	24	25	27
Construction	47	46	48	Wholesale trade	23	23	27
Manufacturing	32	32	33	Retail trade	14	14	15
T.U.C.[c]	49	52	58	F.I.R.E[d]	13	13	13
Wholesale trade	10	11	12	Agriculture	97	97	99
Retail trade	18	19	24	All other[e]	38	41	43
F.I.R.E.[d]	20	20	23				
Agriculture	25	25	25				
All other[e]	102	93	122				

a. Derived from the Casper District input-output model.

b. Figures in parentheses are included in the "all mining" category.

c. Transportation, utilities, and communications.

d. Finance, insurance, and real estate.

e. Includes state and local government and other services such as motels, hotels, and restaurants, theaters, repair services, education, health, water, sewage, and trash.

f. Mining and construction have been combined for Platte and Goshen counties, to avoid disclosing individual operations.

TABLE 3-42
EMPLOYMENT AND INCOME--PLATTE RIVER RESOURCE AREA, 1980, WITH PROJECTIONS THROUGH 1990

	1980		1985		1990	
County/Industry Group	Employment[a]	Annual Salaries and Wages[b] (in thousands)	Employment[c]	Annual Salaries and Wages[d] (in thousands)	Employment[c]	Annual Salaries and Wages[d] (in thousands)
Natrona County total	37,602	$659,263	39,500	$689,000	43,100	$740,000
All mining	7,319	184,432	7,150	180,300	7,140	179,300
Coal mining[e]	--	--	--	--	--	--
Oil and gas[e]	6,115	154,093	6,150	154,700	6,200	155,700
Other mines[e]	1,204	30,340	1,000	25,600	940	23,600
Construction	3,677	69,015	3,600	67,500	3,800	70,400
Manufacturing	1,848	39,479	1,850	39,500	1,900	39,900
T.U.C.[f]	2,681	51,157	3,500	66,500	3,700	71,300
Wholesale trade	4,209	87,941	4,400	91,900	4,800	101,100
Retail trade	6,295	64,218	6,500	66,200	7,500	76,200
F.I.R.E.[g]	1,695	25,710	1,700	26,200	1,900	29,300
All other[h]	9,878	137,311	10,800	150,800	12,400	172,600
Converse County total	5,931	$107,195	5,200	$ 86,049	7,000	$122,400
All mining	2,277	56,862	1,200	30,600	2,400	59,500
Coal mining[e]	162	4,046	230	5,600	990	24,700
Oil and gas[e]	770	19,229	820	20,500	910	22,600
Other mines[e]	1,345	33,588	180	4,500	490	12,200
Construction	598	12,004	590	11,700	610	12,200
Manufacturing	72	1,849	72	1,849	80	1,900
T.U.C.[f]	387	9,463	510	12,400	560	13,700
Wholesale trade	132	1,663	140	1,800	160	2,000
Retail trade	924	7,819	970	8,200	1,200	10,200
F.I.R.E.[g]	174	2,312	180	2,400	210	2,800
All other[h]	1,367	15,223	1,500	17,100	1,800	20,100
Platte County total	3,662	$ 58,885	2,600	$ 30,800	3,000	$ 34,000
Mining and construction[i]	1,366	34,002	10	220	10	220
Manufacturing	80	947	80	947	80	947
T.U.C.[f]	167	2,928	400	7,100	420	7,300
Wholesale Trade	70	847	70	847	80	970
Retail Trade	732	5,011	750	5,100	850	5,800
F.I.R.E.[g]	112	1,274	120	1,350	130	1,500
All other[h]	1,135	13,877	1,200	15,200	1,400	17,200
Goshen County total	3,420	$ 35,186	3,600	$ 37,700	4,000	$ 41,000
Mining and construction[i]	300	4,138	300	4,138	310	4,200
Manufacturing	301	3,897	301	3,897	310	4,000
T.U.C.[f]	186	2,738	240	3,600	260	3,800
Wholesale Trade	292	3,189	310	3,400	340	3,700
Retail Trade	732	5,917	740	6,000	770	6,200
F.I.R.E.[g]	111	1,364	111	1,364	111	1,364
All other[h]	1,498	13,944	1,600	15,300	1,900	17,700

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a. Published by the Wyoming Employment Security Commission (WESC). Totals may not add because of statistical differences.

b. Based on weekly average wages as published by the WESC. Totals may not add because of statistical differences.

c. Employment projections are derived from the Casper District input-output model. Figures may not add because of rounding. Projections for T.U.C. and "All Other" include an estimate of government employment, which is not reported by WESC; therefore, increases may appear somewhat magnified.

d. Based on 1980 weekly average wages. Figures may not add because of rounding.

e. Estimates by Casper District Office.

f. Transportation, utilities, and communications.

g. Financial services, insurance, and real estate.

h. Includes services (motels, hotels, restaurants, theaters, repair services, and other services), state and local government, forestry and fisheries, and some agriculture.

i. Mining and construction have been combined for Goshen and Platte counties, to avoid disclosing individual operations.

Population and Housing Requirements

Table 3-43 presents PRRA population and housing by county for 1980, with population projections (based on employment projections presented above) and housing requirements for 1985 and 1990. The PRRA contains about 23% of Wyoming's total population, with about two-thirds of all PRRA residents living in Natrona County.

For many years much of Natrona County's population, which is relatively large for the area, was based on a high level of employment in the mineral-mining sector. However, as employment in that sector levels off, or even declines slightly, employment in the T.U.C., trade, and "all other" sectors will continue to generate moderate increases in population as Casper becomes increasingly important as a center for regional trade and services.

The population of Goshen County also should continue to grow at a moderate pace as employment in the "all other" sector increases to provide support to the agricultural sector. Population in Converse County will display moderate growth by 1990, despite a significant decline through 1985, as employment levels in the trade and "all other" sectors increase in relation to the minerals-mining sector. Platte County alone in the PRRA will present a significant decline in population in 1990 due to the decline in employment in the mining and construction sectors.

Community Services

The levels of community services that existed in 1979-1980 are presented in table 3-44, and requirements projected for 1990 are presented in table 3-45. In general, the required levels of community services will be in direct proportion to population levels.

Grazing and Agriculture

Most agricultural land in the resource area is used for livestock grazing, with irrigated and dryland farming accounting for about 6% of the total agricultural land. The average ranch operation is a 5,540-acre livestock ranch supporting about 250 animal units year-round.

TABLE 3-43
PLATTE RIVER RESOURCE AREA POPULATION AND HOUSING, 1980 WITH PROJECTIONS FOR FUTURE YEARS

	1980[a]		1985		1990	
County/Community	Population	Housing	Population[b]	Housing[c]	Population[b]	Housing[c]
Natrona	71,856	28,493	76,800	30,500	83,800	33,230
Casper	51,016	20,259	54,500	21,700	59,500	23,600
Converse	14,069	5,350	12,500	4,800	16,900	6,400
Douglas	6,030	2,338	5,400	2,080	7,200	2,800
Glenrock	2,736	1,044	2,400	930	3,300	1,250
Platte	11,975	5,053	8,300	3,500	9,200	3,900
Guernsey	1,991	871	1,400	600	1,530	670
Wheatland	5,816	2,516	4,020	1,740	4,470	1,930
Goshen	12,040	5,017	13,200	5,500	14,600	6,100
Torrington	5,441	2,231	6,000	2,450	6,600	2,700
Area totals	109,940	43,913	110,800	44,300	124,500	49,630

a. 1980 final census count.

b. Estimate based on 1980 population-to-employment ratios. Town estimates based on 1980 city to county ratios.

c. Estimate based on 1980 population-to-housing ratios.

TABLE 3-44
LEVELS OF COMMUNITY SERVICES, 1979-1980

County/Community	School Enrollment	Water Capacity (million gallons per day)	Sewage Capacity (million gallons Per day)	Law Enforcement (sworn officers)	Firefighters Full-time	Firefighters Volunteers	Hospital Beds
Natrona				63			
Casper	13,559	26.0[a]	6.5	117	95		282
Converse				10			
Douglas	1,979	3.5	0.3[b]	10		30	31
Glenrock	1,172	1.5	1.5[c]	8		25	
Platte				6			
Guernsey	413[d]	1.3	0.6[e]	7		34	
Wheatland	2,110	4.7	1.7[c]	12		70[f]	43
Goshen				4			
Torrington	1,663	2.5[a]	g	13		40	56

SOURCE: All data from Wyoming Department of Economic Planning and Development except where otherwise noted.

a. Represents peak demand.

b. A new sewage system for Douglas is scheduled for completion by 1984.

c. Source: Glenrock Public Works Department.

d. Source: Superintendent's office, School District 2, Guernsey, Wyoming.

e. Estimate of 1979-1980 requirements based on 300 gallons per capita daily.

f. Estimate of 1979-1980 requirement based on Casper District average of 12 volunteer firefighters per 1,000 population.

g. Torrington has sewage treatment facilities to serve a population of 6,000.

TABLE 3-45
ESTIMATED 1990 REQUIREMENTS FOR COMMUNITY SERVICES
(based on 1979-1980 levels per 1,000 population)

County/Community	School Enrollment	Water Capacity (million gallons per day)	Sewage Capacity (million gallons Per day)	Law Enforcement (sworn officers)	Firefighters Full-time	Firefighters Volunteers	Hospital Beds
Converse				12			
Douglas	2,380	4.2	0.4	12		36	37
Glenrock	1,410	1.8	1.8	10		30	
Goshen				5			
Torrington	2,020	3.0	a	16		49	68
Natrona				73			
Casper	15,800	30.3	7.6	136	111		329
Platte				5			
Guernsey	320	1.0	0.5	5		19	
Wheatland	1,620	3.6	1.3	9		54	33

a. Torrington has treatment facilities to serve a population of 6,000.

A report from the Wyoming Crop and Livestock Reporting Service (1983) indicates that Goshen County continued to lead all counties in the state with total cattle and calves on farm and ranches by January 1, 1983, with 106,000 head. Platte County was third with 44,000 head, and Natrona County was sixth with 80,000 head. By comparison, the same report showed Natrona County was the leading county in the state for sheep numbers, with 131,500 head. That figure was down 10% from 1982. Converse County was third in Wyoming, with 94,000 head of sheep on farms and ranches.

Table 3-10 in the "Grazing" section provides a summary of grazing leases for the resource area.

Natrona County contains about 75% of federal leased acres and 70% of the AUMs authorized in the PRRA. All counties in the PRRA show a very good ratio of acres per AUM compared with rangeland in other Western states. Natrona County has the highest acreage requirement; Goshen County has the least.

Table 3-46 shows cash receipts for agricultural products.

TABLE 3-46
ESTIMATES OF 1980 CASH RECEIPTS FOR MAJOR AGRICULTURAL COMMODITIES
IN THE CASPER DISTRICT BY COUNTY[a]
(figures may not add due to rounding)

Commodities	Natrona ($1,000)	Converse ($1,000)	Platte ($1,000)	Goshen ($1,000)
Livestock				
Cattle and calves[a]	16,680	19,570	23,410	67,440
Hogs[b]	40	110	260	350
Sheep and lambs[c]	2,750	2,110	90	240
Wool[d]	1,200	920	40	110
Other Agriculture				
Barley[e]	20	160	130	430
Corn[e]	20	20	530	1,810
Dry beans[e]	--	290	1,920	4,330
Hay[e]	470	540	530	1,250
Oats[e]	30	70	40	70
Sugar beets[e]	--	--	--	11,070
Wheat[e]	220	180	3,520	7,700
Dairy products[f]	70	330	530	1,000
Totals	21,500	24,300	31,000	95,800

NOTE: Estimates are based on a distribution of total receipts for each commodity in the state of Wyoming for 1980, as reported by the Wyoming Crop and Livestock Reporting Service/USDA in Wyoming Agricultural Statistics, 1981, and applied to total agricultural sales taken from the Casper District input-output model. Does not include receipts for poultry and eggs or other miscellaneous commodities. Commodity categories presented represent 98.6% of total Wyoming receipts for 1980. Columns may not add due to rounding.

a The disaggregation of total Wyoming cash receipts for cattle and calves was accomplished on the basis of the summation of the county's share of all cattle and calves, all cows that have calved, and cattle and calves moved on brand certificates by county of origin in 1979.

b The disaggregation of total Wyoming cash receipts for hogs was accomplished on the basis of trends in the county's share of total hogs between 1972 and 1976.

c The disaggregation of total Wyoming cash receipts for sheep and lambs was accomplished on the basis of the summation of the county's share of all stock sheep and sheep and lambs moved on brand certificates by county of origin in 1979.

d Total Wyoming cash receipts for wool were disaggregated on the basis of the county's share of stock sheep in 1979.

e Total Wyoming cash receipts for the various crops were disaggregated on the basis of the county's share of the crop's production in 1979.

f Total Wyoming cash receipts for dairy products were disaggregated on the basis of the county's share of milk and cows in 1979.

Goshen County has the highest cash receipts for all agricultural commodities. While agricultural commodities for the area are insignificant when compared to the mineral industry, the agricultural industry remains a traditional and important part of the local economy.

The number of federal leases and the AUMs they account for indicate a significant dependency on public lands for forage in Natrona County. Specific ranches in Converse and Platte counties are dependent on public land. Federal lands have virutally no significance in Goshen County.

Table 3-47 displays the percentage of the yearly inventory of AUMs that was supplied by BLM grazing leases between 1975 and 1979. Public land in Natrona County provides a sizable 16.4%, while the amount in other counties is significanly less.

TABLE 3-47

COMPARISON OF GRAZING LEASED BY THE BLM ON 1/15/83
TO THE AVERAGE TOTAL INVENTORY REQUIREMENT
BY COUNTY IN TERMS OF ANIMAL UNITS

	Converse County	Goshen County	Platte County	Natrona County
Animal unit months leased by BLM	25,851	6,011	13,039	144,800a
Number of animal units supported	2,154	501	1,087	12,067
Five year cumulative inventory (Jan. 1, 1975-79)				
Cattle (AUs)	241,000	300,000	253,000	209,000
Sheep (AUs)	105,000	7,000	6,500	159,000
Total (AUs)	346,000	307,000	259,500	368,000
Average beginning year inventory (AUs)	69,200	61,400	51,900	73,600
Percent of average beginning year inventory requirements provided by BLM	3.1%	0.8%	2.1%	16.4%

a. A transfer of one allotment to the Buffalo Resource Area has caused this figure to change to 144,435. That is not reflected in this table.

Table 3-48 indicates the gross return for supporting an animal unit in inventory for one month, with a comparison among cattle, sheep, and big game animals. It is interesting to note the return from supporting an AU of big game in comparison with an AU of livestock. While the gross return from big game certainly doesn't compete with that from cattle, it does outweigh that of sheep in most cases.

TABLE 3-48
GROSS RETURN FOR SUPPORTING AN ANIMAL UNIT (AU) IN INVENTORY FOR ONE MONTH IN THE CASPER DISTRICT
Five-Year Average (1975-1979)

		Cattle	Sheep	Mule Deer	White-Tailed Deer	Antelope	Elk	Overall
Goshen County								
5-year cumulative inventory[1]	(AUs)	300,000	7,000	11,000	200	7,300	100	326,000
5-year cumulative returns[2]	($1,000)	247,500	1,300	800	50	1,400	20	251,000
Average annual return to an AU[3]	($)	825	186	73	250	192	200	770
Average monthly return to an AU[4]	($)	69	16	6	21	16	17	64
Natrona County								
5-year cumulative inventory[1]	(AUs)	209,000	159,000	28,000	13,000	32,000	3,400	444,000
5-year cumulative returns[2]	($1,000)	61,300	20,900	3,800	300	3,500	300	90,000
Average annual return to an AU[3]	($)	293	131	136	23	109	88	203
Average monthly return to an AU[4]	($)	24	11	11	2	9	7	17
Converse County								
5-year cumulative inventory[1]	(AUs)	241,000	105,000	24,000	18,000	26,000	2,200	416,000
5-year cumulative returns[2]	($1,000)	73,000	15,400	4,700	400	5,900	300	100,000
Average annual return to an AU[3]	($)	303	147	196	22	227	136	240
Average monthly return to an AU[4]	($)	25	12	16	2	19	11	20
Platte County								
5-year cumulative inventory[1]	(AUs)	253,000	6,500	9,000	1,800	8,100	800	279,000
5-year cumulative returns[2]	($1,000)	90,000	800	800	70	1,400	100	93,000
Average annual return to an AU[3]	($)	356	123	89	39	173	125	333
Average monthly return to an AU[4]	($)	30	10	7	3	14	10	28

[1] This is the sum of the beginning year inventories for the five-year period. Figures have been converted to animal units by standard BLM factors. For purposes of this study, animal unit equivalents are as follows:

1 800-pound cow with or without calf = 1 AU
1 bull = 1.2 AUs
1 heifer or steer heavier than 500 pounds = 0.7 AUs
1 calf lighter than 500 pounds = not counted
5 sheep = 1 AU

4 mule deer = 1 AU
4.5 white-tailed deer = 1 AU
1.25 elk = 1 AU
5 antelope = 1 AU

Estimates of animal units in cattle and sheep are based on beginning year inventories by county as published by the Wyoming Crop and Livestock Reporting Service, USDA, in *Wyoming Agricultural Statistics*. Estimates of animal units in wildlife are based on beginning year inventories that were converted from data furnished as the post-harvest populations of herd units for the five-year period between 1974 and 1978 by Wyoming Game and Fish Department.

[2] For cattle or sheep, this represents the sum of the gross receipts during the five-year period. Figures were derived from data published by the Wyoming Crop and Livestock Reporting Service, USDA, in *Wyoming Agricultural Statistics*. The value for sheep includes gross receipts for wool.

For wildlife, this is the sum of sportsman expenditures for the same period. Figures were derived from data furnished by Wyoming Game and Fish Department on a herd unit basis. The return to an AUM in wildlife should be viewed as the return to the economy in the state of Wyoming.

[3] Returns divided by inventory.

[4] Return to an animal unit (AU) divided by 12.

Table 3-49 shows the number of recreation visitor days and projects future visitation. A large share of use is by Wyoming residents; although a significant amount of use related to the water-based recreation on the North Platte River (30%) and dispersed use of public lands (30%) is by nonresidents.

Data collected on visitor use from 1974 through 1982 at Muddy Mountain Campground and Environmental Education Area and at Goldeneye Wildlife and recreation areas show increases of 83% (7,000 to 12,800) and 50% (2,500 to 5,000), respectively. The significantly lower increase at Goldeneye Reservoir was due to lowering of the reservoir, poisoning of rough fish in preparation for restocking. Visitation occurs in many popular camping and fishing sites. This must be considered dispersed use recreation, since few or no facilities are provided and use is casual and seasonal.

Hunting and fishing in the PRRA contribute significantly to the local economy, especially during the various hunting seasons. Tables 3-21, 3-22, 3-23, 3-24, and 3-25 in the "Recreation" section show the number of visitor days for hunting.

TABLE 3-49

PLATTE RIVER RESOURCE AREA
RECREATIONAL VISITOR DAYS

	1979[a]	1980[b]	1981[a]	1985[c]	1990[c]
Muddy Mountain total	12,500		13,200	13,780	16,120
Wyoming residents (95%)	11,875	12,200	12,540	13,100	15,400
Nonresidents (5%)	625	640	660	680	720
Goldeneye total	13,468		12,900	14,100	16,540
Wyoming residents (95%)	12,795	12,500	12,255	13,400	15,800
Nonresidents (5%)	673	660	645	700	740
North Platte River total	6,000		8,000	7,500	8,500
Wyoming residents (70%)	4,200	4,900	5,600	5,300	6,200
Nonresidents (30%)	1,800	2,100	2,400	2,200	2,300
Dispersed use of Public lands	17,000		17,000	18,200	21,800
Wyoming resident (70%)	11,900	11,900	11,900	12,800	15,100
Nonresident (30%)	5,100	5,100	5,100	5,400	5,700

a. Casper District recreation visitor data

b. Estimate is based on average of 1979 and 1981 data

c. Projections based on 1980 levels per 1,000 Wyoming population and per million U.S. populations.

Wyoming population (thousands)	470	505	595
U.S. population (millions)	227	240	254

Environmental Consequences

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CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

SUMMARY OF ENVIRONMENTAL CONSEQUENCES BY ALTERNATIVE

Program/Issue	Alternative 1 Continuation of Existing Management[a]	Alternative 2 Low Level Management[a]	Alternative 3 Moderate Level Management[a]	Alternative 4 High Level Management[a]	Preferred Management Plan (net difference)[b]
Cultural Resource Mgmt. Program					
Resource protection	Cultural resource values would be protected 14 areas (2,577 acres).	Minor decrease in cultural resource protection to 10 areas (2,400 acres).	Significant increase in cultural resource protection to 15 areas (4,000 acres).	Significant increase in cultural resource protection to 23 areas (4,725 acres)	ALT. 4 would significantly increase cultural resource protection on 9 areas (2,148 acres).
Energy and Minerals Mgmt. Program					
Oil and gas	Oil and gas resource values are available on 4,644,090 acres subject to mitigation. 1,300 acres are disturbed annually.	No change	No change	No change	ALT. 1--no change
Coal	Coal resource values are available on 51,597 acres (1,362 million tons). Coal would be removed at rate of 200 acres annually through 1985 and 400 acres annually thereafter.	No change	No change	No change	ALT 1--no change
Sand and gravel availability	Sand and gravel resource values are available throughout PRRA except for 12,800 acres where all resource values would be protected. Removal rate is about 40 acres per year.	Significant increase in availability of sand and gravel resources by allowing extraction of additional 12,800 acres.	Minor increase in availability of sand and gravel resources by allowing extraction of additional 9,400 acres.	No change from Alt. 2	ALT. 1--no change
	Locatable mineral resources available throughout PRRA except for 340,800 acres. Only 38,800 acres would be withdrawn to protect resource values. The remaining 302,000 acres are managed by other federal agencies.	Withdrawn land would decrease 38,800 acres, for a total withdrawn area of 302,000 acres.	Withdrawn land would decrease 28,300 acres, for a total withdrawn area of 312,500 acres.	Withdrawn land would decrease 19,600 acres for a total withdrawn area of 321,200 acres.	ALT. 3 would decrease withdrawn land by 28,300 acres for a total withdrawn area of 312,500 acres. BLM would withdraw 10,500 acres.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES BY ALTERNATIVE
(continued)

Program/Issue	Alternative 1 Continuation of Existing Management^a	Alternative 2 Low Level Management^a	Alternative 3 Moderate Level Management^a	Alternative 4 High Level Management^a	Preferred Management Plan (net difference)^b
Fire Management Program					
Fire management	None	Priority suppression on 6% of PRRA would provide maximum protection of high value resources.	No change from Alt. 2	No change from Alt. 2	ALT. 3 would increase maximum protection of high value resources on 6% of PRRA.
	Full suppression on 100% of PRRA would provide protection of all resource values.	Decrease full suppression to 94% of PRRA.	Decrease full suppression to 32% of PRRA.	Decrease full suppression to 9% of PRRA.	ALT. 3 would significantly decrease protection of all resource values on 68% of PRRA but maintain protection on 32%.
	None	None	Limited suppression on 62% of PRRA would protect low value resources.	Increase limited suppression to 85% of PRRA to protect low value resources.	ALT. 3 would significantly increase protection of low value resources on 62% of PRRA.
	Prescribed fire on 1,600 acres would enhance range, forestry, and wildlife values. All other values would be maintained.	Increase acreage as determined by other resource activity planning needs. Range, forestry, and wildlife values would be enhanced. All other values would be maintained.	Increase acreage as determined by priority resource needs developed in a prescribed fire plan.	Increase acreage as determined by all resource activity needs in PRRA.	ALT. 3 would increase acreage of prescribed fire as determined by priority resource needs designed to enhance appropriate resource values.
Forest Management Program					
Timber harvest and pine beetle control	Intensive management of 11 planning areas (9,150 acres) would enhance timber harvest resource base.	No intensive management for 9,150 acres would be a significant loss in timber harvest resource base.	Priority management on 8,000 acres with emphasis on control of pine beetles.	Significant increase to 17 plans (13,590 acres) would significantly increase timber harvest resource base with short-term emphasis or beetle control.	ALT. 4 would moderately increase timber harvest resource base by 6 areas (4,440 acres) and enhance overall timber value.
	Management of 4,750 acres of forestland would maintain timber harvest base. 105 acres disturbed annually.	Minor decrease to 3,000 acres would reduce timber resource availability.	Increase to 8,000 acres would moderately increase timber resource availability.	Increase to 34,000 acres would significantly increase timber resource availability.	ALT. 4 would significantly increase timber resource availability by 29,250 acres.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES BY ALTERNATIVE
(continued)

Program/Issue	Alternative 1 Continuation of Existing Management[a]	Alternative 2 Low Level Management[a]	Alternative 3 Moderate Level Management[a]	Alternative 4 High Level Management[a]	Preferred Management Plan (net difference)[b]
Forest Management (continued)	Annual harvest level of 525 mbf would significantly reduce timber resource loss due to pine beetle infestation.	Decrease to 120 mbf would significantly increase timber resource loss due to pine beetle infestation.	Increase to 600 mbf would slightly reduce timber resource loss due to pine beetle infestation.	Increase to 705 mbf for 5 years, 500 mbf for 5 years, and maintenance of 120 mbf harvest per year thereafter would significantly reduce timber resource loss due to pine beetle infestation.	ALT. 4 would increase annual harvest level by 225 mbf for 5 years, cause a minor reduction of 25 mbf for 5 years, and cause a significant reduction of 405 mbf thereafter.
Grazing Management Program					
Grazing lease administration	Range improvement project development and 2 AMPs would provide a short-term benefit of 0.4% AUMs forage (846 AUMs) and a 3.4% long-term benefit of 7,010 AUMs. Range condition and forage production would be maintained on 1,254,377 acres and improved on 165,000 acres.	Four AMPS would be managed to the benefit of wildlife and watershed, producing a net short-term reduction of 0.4% (856 AUMs) less than now authorized to livestock. Range conditions and forage production would be maintained on 1,283,977 acres and improved on 135,400 acres.	Range improvement project development and 13 AMPs would produce a 2.7% short-term benefit of 5,420 AUMs and a 6.8% long-term benefit of 13,927 AUMs. Range conditions and forage production would be maintained on 737,377 acres and improved on 682,000 acres.	Range improvement project development and implementation of 29 AMPs would produce a 3% short-term benefit of 6,190 AUMs and a 9% long-term benefit of 18,464 AUMs. Range conditions and forage production would be maintained on 303,977 acres and improved on 1,115,400 acres.	ALT. 1 with intensified project development and maintenance of 2 AMPs would produce a 2.7% short-term benefit of 5,420 AUMs. Long-term benefit would be as in Alternative 1.
Lands Program					
Land disposition	R&PP values would be enhanced on 1,020 acres.	Decrease to 520 acres would reduce R&PP opportunities.	Increase to 1,050 acres would accommodate all known public purpose needs for 10 years.	Increase to 1,740 acres would significantly enhance R&PP opportunities and values.	ALT. 3 would increase R&PP opportunities by 30 acres and accommodate public purpose needs for 10 years.
	Exchanges in 33 areas would enhance all resource programs and significantly benefit management. Cost would be extremely high.	Decrease to 2 areas. Cost-benefit would be high.	Decrease to 3 areas.	Decrease to 8 areas.	ALT. 4 would significantly reduce exchanges on 25 areas but would enhance resource values on 8 areas.
	Disposal of 29,000 acres would remove land base from public management.	Increase to 79,500 acres.	Increase to 102,700 acres.	No change from Alt. 3	ALT. 3 would increase the amount of land available for disposal by 73,700 acres. About 1,000 acres would be sold annually.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES BY ALTERNATIVE
(continued)

Program/Issue	Alternative 1 Continuation of Existing Management[a]	Alternative 2 Low Level Management[a]	Alternative 3 Moderate Level Management[a]	Alternative 4 High Level Management[a]	Preferred Management Plan (net difference)[b]
Withdrawals	Withdrawal of 17 new areas (38,800 acres) would protect existing resource values and preclude mining.	Decrease to no new areas protected from mining would reduce resource protection on 38,800 acres. Would afford no protection on priority areas.	Decrease to 5 areas (10,500 acres) protected from mining would significantly enhance resource values in priority. areas.	Decrease to 6 areas (19,200 acres) protected from mining would significantly enhance resource values.	ALT. 3 would decrease the number of withdrawals by 12 (28,300 acres) would significantly enhance resource values that are unique.
Corridors	Confine surface disturbance to 8 areas and protect resource values outside of corridors.	Decrease to 5 areas would moderately reduce surface disturbance and maintain protection of resource values.	Designation of 5 corridors and moving one to protect cultural resources would protect resource values.	No change from Alt. 3	ALT. 3 would decrease the number of corridors by 3 and moderately reduce surface disturbance and maintain protection of resource values.
	10 areas restricted from rights-of-way protect resource values from surface disturbance.	Decrease to no areas restricted would significantly increase right-of-way availability and disturbance of surface values.	Maintain 10 areas, reduce restrictions in 2 areas would enhance resource development.	No change from Alt. 3	ALT. 3 would protect resource values in 8 areas and enhance resources development in 2 areas.
Access	Access to public lands is improved with development of 46 roads (148 miles.) Public use opportunities are enhanced. Cost is high relative to benefit derived.	Decrease to no roads would reduce recreation opportunities significantly but would enhance protection of all resources.	Decrease to 17 roads would moderately enhance recreation values, reduce accessibility slightly, and provide maximum benefit.	No significant change from Alternative 3 except for cooperative access agreements.	ALT. 4 would decrease public access by 29 roads, moderately enhancing recreation values, and provide maximum benefit in terms of cost.
Recreation Management Program					
Recreation management	Recreation and scenic values would be maintained on 12,733 acres of special recreation areas and 21,000 acres of the Middle Fork area.	No change	No change	No change	ALT. 1 would maintain recreation and scenic values on 33,733 acres.
	Potential management of 12 planning areas (35,480 acres) would enhance recreation opportunities and protect recreation and scenic values.	Decrease to no plans would significantly reduce recreation opportunity and provide less protection of recreation and scenic values.	Decrease to 2 plans on 5,476 acres would moderately reduce recreation opportunity and the protection of recreation and scenic values.	Increase to 13 plans for 36,347 acres would significantly enhance recreation opportunities and provide protection of recreation and scenic values.	ALT. 3 would reduce the number of planning areas by 10 (30,004 acres) and would moderately reduce recreation opportunity but would enhance recreation values significantly on 2 areas (5,476 acres).

SUMMARY OF ENVIRONMENTAL CONSEQUENCES BY ALTERNATIVE
(continued)

Program/Issue	Alternative 1 Continuation of Existing Management[a]	Alternative 2 Low Level Management[a]	Alternative 3 Moderate Level Management[a]	Alternative 4 High Level Management[a]	Preferred Management Plan (net difference)[b]
Recreation management (continued)	ORV designations on 1,146,540 acres would enhance recreation opportunities and protect watershed values.	Increase to 1,399,453 acres of ORV designations would be a minor increase in recreation opportunity and would protect watershed values.	Increase to 1,399,453 acres of ORV designation would provide significant increase in closed areas to protect cultural and watershed values. Open area would increase recreation opportunity and values.	No change from Alt. 3	ALT. 3 would increase ORV designations by 252,913 acres, increase recreation opportunity, and protect scenic and watershed values.
	Development of plans for 240 acres would enhance environmental education and protect resource values.	Decrease of plans to none and maintenance of 3 areas (240 acres) would maintain environmental education and protect resource values.	No change from Alt. 2	No change from Alt. 2	ALT. 2 would maintain 3 areas (240 acres). The environmental education values would be maintained without planning.
	Visual resource values are managed for PRRA. 207,000 acres managed as Class II.	No change	No change	No change	ALT. 1--no change
Soil, Water, and Air Mgmt. Program					
Watershed protection	Soil and water resource values and productivity would be maintained or enhanced on 450,000 acres through management and mitigation.	Decrease to 213,000 acres would bring about minor enhancement of soil and water resource values and productivity.	Increase to 852,000 acres would moderately enhance soil and water resource values and productivity.	Increase to 1,987,900 acres would significantly enhance soil and water resource values and productivity. Surface restrictions would be added to front range of the Laramie Mountains.	ALT. 4--would significantly benefit 1,148,500 acres of soil and water resource values that would be enhanced as a result of the preferred management plan from all programs. This includes acreage containing federal mineral estates.
Wildlife Management Program					
Wildlife habitat management	Three HMP areas (5,740 acres) are being managed to improve habitat for small game, nongame birds, and mammals; one HMP area managed for endangered species (bald eagle) habitat.	Would decrease to 1 management area (3,600 acres) for protection of endangered species habitat. No loss of wildlife values.	No change from Alt. 1	No change from Alt. 1	ALT. 4 would maintain wildlife values on 3 areas (5,740 acres).

SUMMARY OF ENVIRONMENTAL CONSEQUENCES BY ALTERNATIVE
(continued)

Program/Issue	Alternative 1 Continuation of Existing Management[a]	Alternative 2 Low Level Management[a]	Alternative 3 Moderate Level Management[a]	Alternative 4 High Level Management[a]	Preferred Management Plan (net difference)[b]
Wildlife habitat management (continued)	Potential habitat management of 13 areas (58,500 acres) would maintain terrestrial habitat values, moderately enhance aquatic and wetlands habitat values, and increase small game and and nongame populations.	Decrease to no (new) areas; no increase in fishery and wildlife habitats or populations.	Decrease to 4 (new) areas (3,200 acres) would maintain terrestrial habitat values and enhance aquatic and wetland habitat values; minor increase in small game and nongame populations.	Decrease to 9 (new) areas (54,160 acres)--minor enhancement of terrestrial and endangered species habitat values, moderate enhancement of aquatic and wetland habitat values, and increase in small game and nongame populations	ALT. 4 would decrease new planning areas by 4 (4,340 acres). This represents an increase in wildlife values by concentrating management on productive areas.
Special Designations					
Intensive management areas					
Pterodactyl Tracks	Cultural, paleontological, and scenic values would be maintained on 1,200 acres.	No significant change	Decrease to 400 acres would still maintain significant cultural, paleontological, and scenic values.	Decrease to 400 acres would still maintain or enhance significant cultural, paleontological, and scenic values.	ALT 3, with a decrease of 800 acres, would still provide for maintenance of significant cultural, paleontological, and scenic values. Locatable mineral exploration and development would not be available on 400 acres.
Red Wall	Recreation and scenic values would be maintained on 8,700 acres.	No significant change from removing ACEC designation.	No significant change	Area would be withdrawn from locatable mineral development.	ALT 2. would remove ACEC designation but maintain recreation and scenic values.
Salt Creek	Soil, water, and air resource values would be enhanced on 416,176 acres.	No significant change	No significant change on soil, water, and air resource values. Cultural resource values would be enhanced.	No significant change on soil, water, and air resource values. Cultural resource values would be enhanced.	ALT. 3 would cause no significant change from ALT. 1 in soil, water, and air; would enhance cultural values.
Jackson Canyon	Endangered species habitat and wildlife values would be enhanced on 3,600 acres.	Endangered species habitat and wildlife values would be maintained or slightly decreased through lack of pine beetle management.	Same as alternative 1 except beetle control would be intensified in eagle roost areas.	No significant change from Alt. 1	ALT. 3 would enhance endangered species and wildlife values by preserving habitat.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES BY ALTERNATIVE
(continued)

Program/Issue	Alternative 1 Continuation of Existing Management[a]	Alternative 2 Low Level Management[a]	Alternative 3 Moderate Level Management[a]	Alternative 4 High Level Management[a]	Preferred Management Plan (net difference)[b]
Muddy Mountain EEA	Environmental education and recreation resource values would be enhanced on 1,200 acres.	No significant change	Environmental education and recreation resource values would be maintained or slightly decreased in 675-acre natural area within EEA.	No significant change from Alt. 3.	ALT. 3 would maintain or slightly decrease environmental education and recreation resource values.
Casper Sand Dunes	Fragile watershed would be maintained on 13,560 acres.	No significant change	Fragile watershed and recreation values would be enhanced.	No significant change from Alt.3.	ALT. 3 would enhance watershed and recreation values.

a. Summary for each alternative is a cumulative figure that may include figures from all resource programs.

b. The net difference is the difference between Alternative 1 (present management) and the preferred management plan.

INTRODUCTION

The consequences, or impacts, associated with each alternative are presented in this chapter. Impacts are discussed as they relate to resource components. Table 4-1 displays the relationship between resource components (physical, biological, and socioeconomic aspects of the environment that change), resource management programs (land uses that cause change), and the issues that are addressed in this plan.

The components that would be affected by resource program alternatives are identified in table 4-1. The assessment for Alternative 1 discusses all aspects of present management. The assessment for aspects of present management that would not change or that would remain essentially the same under each alternative will not be repeated. Instead, the assessment for Alternatives 2, 3, and 4 focuses on each issue and the changes in resource components that would result from that alternative. For example, the discussion of Alternative 1 contains information about the effects of the cultural resource management program on cultural resources; minerals; vegetation, soil, and water; land use; and socioeconomic conditions. The discussion of the cultural resource management program under Alternative 2 covers effects only on cultural resources and land use; there would be no change from Alternative 1 in the effects on other resource components; therefore, the assessment is not repeated.

ASSUMPTIONS AND ANALYSIS GUIDELINES

The following assumptions were made to facilitate this analysis:

Each alternative that addressed an issue would be fully implemented.

The BLM would not have any control over state or private land unless the mineral estate was federal, in which case any control would be in relation to the mineral estate.

The BLM would not have any control over state or private land intermixed within grazing allotments unless there was an agreement with the private owner specifying the extent of control.

All laws, regulations, policies, and management direction would be complied with.

Effects on vegetation, soil, and water are to be discussed in concert. An action that affects one of these components generally affects the others.

As explained above, only the change in resource components resulting from addressing specific program issues are addressed in the discussion of Alternatives 2, 3, and 4. It is to be assumed that the rest of the effects of those alternatives on resource components would essentially be the same as those discussed in Alternative 1.

ALTERNATIVE 1: CONTINUATION OF PRESENT MANAGEMENT

Cultural Resource Management Program

Effects on Cultural Resources

Necessary cultural resource inventory and site mitigation based on standard operating procedures offer a limited degree of protection for cultural resources. For this reason, the present cultural resource management program provides beneficial effects (preservation or availability of data for public use, education, appreciation).

There are several sites on federal surface that are not addressed under present management. While the BLM is required to protect all sites, it is likely that some significant sites could be compromised. A prime example is the Notches Dome area and the stage and Pony Express stations in the resource area. There are six stations where, if remains are present, the sites would be eligible for the National Register of Historic Places. There are other sites that represent significant examples of a major theme in western history. Present management emphasis does not allow proper inventory or evaluation of these sites.

Inventory for the Texas and Mormon trails is questionable, not because of significance, but because of manageability. The trail routes go through an area where the BLM has little management responsibility; thus, the cost of an inventory might result in little public benefit.

Effects on Mineral Resources

Fourteen cultural sites would be protected from surface development. These sites cover a total of about 2,577 acres. Oil and gas potential is high on about 1,867 acres and moderate on the remaining 680 acres. Sites on the Bozeman Trail containing 1,030 acres present the greatest potential for conflict. These sites are in an area where oil and gas development is intense. However, no site is greater than 240 acres or wider than ½ mile. Thus, oil and gas wells drilled on the boundary of these sites could drain the oil beneath them. Of the remaining sites, the largest tract is 480 acres. There is no oil and gas activity near these sites, and no conflict is anticipated.

The application of the coal unsuitability criteria on federal coal land in northern Converse County might result in the elimination of about 12 million tons of coal from further leasing consideration.

Mining of sand and gravel or use of other salable minerals would be preceeded by a cultural inventory. Either the cultural resources found on a particular site would be removed or the extraction of salable minerals would not be allowed. Salable minerals would not be available for use on 14 sites (2,577 acres) that are protected from surface development. This exclusion and the fact that on-site cultural resources found during an inventory does not significantly affect the availability of salable mineral resources.

Effects on Vegetation, Soil, and Water

The cultural resource management program is beneficial in that the program is directed at protecting or preserving cultural sites. Protection usually involves elimination of surface development. Thus the program protects other surface resources.

TABLE 4-1
EFFECTS OF MANAGEMENT PROGRAMS ON RESOURCES
BY ALTERNATIVE

Environmental Component	Cultural Resources Management Program	Energy and Minerals Management Program	Fire Management Program	Forest Management Program	Grazing Management Program	Lands Program				Recreation Management Program	Soil, Air and Water Manage ment Program	Wildlife Management Program	Special Designations
						Land Disposition	Withdrawals	Corridors	Access				
Cultural Resources	Alt. 1 Alt. 2 Alt. 3 Alt. 4	Alt. 1					Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 2	Alt. 1	Alt. 1	Alt. 1	Alt. 1	Alt. 1 Alt. 2 Alt. 3 Alt 4
Geology		Alt. 1											
Topography		Alt. 1						Alt. 1			Alt. 1		
Minerals	Alt. 1 Alt. 3 Alt. 4	Alt. 1 Alt. 2 Alt. 3 Alt. 4				Alt. 1 Alt. 2 Alt. 4	Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 3	Alt. 1 Alt. 3 Alt. 4	Alt. 1	Alt. 1 Alt. 2 Alt. 3 Alt. 4	Alt. 1 Alt. 2 Alt. 3 Alt. 4
Vegetation	Alt. 1	Alt. 1 Alt. 2	Alt. 1 Alt. 2 Alt. 3 Alt. 4	Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 2 Alt. 3 Alt. 4			Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 3	Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 2 Alt. 3 Alt. 4	Alt. 1 Alt. 3	Alt. 1 Alt. 3
Soil	Alt. 1	Alt. 1 Alt. 2	Alt. 1 Alt. 2 Alt. 3 Alt. 4	Alt. 1 Alt. 2	Alt. 1 Alt. 2 Alt. 3 Alt. 4			Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 3	Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 2 Alt. 3 Alt. 4	Alt. 1 Alt. 3	Alt. 1 Alt. 3
Water	Alt. 1	Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 2 Alt. 3 Alt. 4	Alt. 1 Alt. 2	Alt. 1 Alt. 2 Alt. 3 Alt. 4			Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 3	Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 2 Alt. 3 Alt. 4	Alt. 1 Alt. 3	Alt. 1 Alt. 3
Air		Alt. 1 Alt. 1 Alt. 3	Alt. 1 Alt. 3	Alt. 1				Alt. 1	Alt. 1				

Issue	Cultural resource protection	Sand and gravel availability	Fire Management	Timber harvest and pine beetle control	Grazing and lease administration	Land disposal	Withdrawals	Corridors and rights-of-way	Access	Recreation management	Watershed protection	Wildlife habitat management	Intensive management areas
Noise		Alt. 1 Alt. 2	Alt. 1	Alt. 1				Alt. 1	Alt. 1				
Climate			Alt. 1	Alt. 1									
Visual Resources		Alt. 1 Alt. 2	Alt. 1	Alt. 1				Alt. 1	Alt. 1	Alt. 1			
Wildlife		Alt. 1 Alt. 2	Alt. 1	Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 2 Alt. 3 Alt. 4	Alt. 1 Alt. 2 Alt. 3	Alt. 1	Alt. 1	Alt. 1	Alt. 1 Alt. 3	Alt. 1	Alt. 1 Alt. 2 Alt. 3 Alt. 4	Alt. 1 Alt. 3 Alt. 4
Land Use	Alt. 1 Alt. 2 Alt. 3 Alt. 4	Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 2	Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 2 Alt. 3 Alt. 4	Alt. 1	Alt. 1	Alt. 1 Alt. 2	Alt. 1 Alt. 2	Alt. 1 Alt. 2 Alt. 3	Alt. 1	Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 3
Socio-economic Conditions	Alt. 1	Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 3 Alt. 4	Alt. 1 Alt. 2 Alt. 3	Alt. 1 Alt. 2 Alt. 3 Alt. 4	Alt. 1 Alt. 2 Alt. 3				Alt. 1 Alt. 2 Alt. 3			

Effects on Land Uses

Protection of cultural sites would eliminate the use of the surface of those lands for mineral development or for rights-of-way. It also would preclude placement of any facility that would affect cultural resources.

Socioeconomic Effects

Protection of cultural sites is beneficial in a social sense in that archeological and historical values are preserved for the public enjoyment. The present corridor defined in the vicinity of the Oregon Trail in Natrona County could compromise or eliminate significant segments of the trail.

Short-term Use versus Long-term Productivity

The probability that short-term intensive land use would compromise cultural sites is low. Cultural resources would be protected, or data and artifacts would be collected and catalogued before development would occur. The one area where short-term use might compromise the long-term integrity of cultural resources is the present Oregon Trail corridor. One possible mitigating measure that would eliminate this problem is moving the location of the corridor.

Unavoidable Adverse Effects

There is always the likelihood of losing cultural resources during surface development. Surface inventories do not always ensure that these resources will be protected or salvaged. This is especially true in the case of mining locations because the BLM usually does not inventory these locations and the claimant has no legal responsibility to do so.

Potentially adverse effects on cultural resources are likely so long as the approach to cultural resource management is reactionary. Over time, the probability of losing significant cultural resources would increase.

Irreversible and Irretrievable Commitment of Resources

Cultural resources would be lost on 1% or less of the locations of mineral-related actions.

Conclusion

Continuation of present management would provide adequate protection for known cultural sites. An active role in requiring a cultural inventory prior to surface development would be beneficial because impacts to cultural resources would be low. The exception to that is the corridor defined along the Oregon Trail.

Present management does not promote an active role in inventorying and managing significant cultural sites. Examples are the Notches Dome area and the stage and Pony Express stations. This alternative, while reactive to land use proposals, is the most attractive from an inventory cost viewpoint. However, significant cultural sites are more likely to be compromised given the reactionary nature of this alternative. Thus the issue, loss of cultural sites via reaction to land use proposals, probably would not be resolved.

Energy and Minerals Management Program

Effects on Cultural Resources

The effects of oil and gas development on cultural resources is beneficial in most cases because regulations require inventory of all drilling sites prior to surface development. If cultural resources are observed during the inventory, mitigation measures (salvage or avoidance) are applied before development begins. These preconstruction inventories provide much of the cultural data base in the PRRA.

Impacts are potentially adverse where sites are not identified and are subsequently damaged or destroyed as a result of inadequate survey. Inadequate surveys and destruction of cultural resources would be likely to occur on about 1% or less of all land use proposals.

Under current regulations (43 CFR 3809), the BLM cannot require prospectors for locatable minerals to conduct cultural resource inventories on a prospect smaller than 5 acres. Small mining claims do result in the loss of cultural resources. The significance of that loss cannot be determined.

On mining claims larger than 5 acres, the BLM is authorized to require a cultural resource inventory. The BLM is responsible for providing funding for mitigation. Where sites are identified and the resource is preserved, the effect is beneficial.

Environmental Consequences

Effects on Geology

Surface mining would impact the geology at specific mine sites. Impacts probably would be confined to the coal and uranium areas in northern Converse County.

In situ gasification of coal or uranium would be likely to cause geologic impacts. Usually the coal or uranium would be removed from underground through burning or leaching. The impact of in situ development on geology is not known. No coal gasification is proposed at this time, but if it occurred it would be confined to the available coal lands in northern Converse County. An in situ uranium project could possibly occur in Natrona County a few miles north of Casper.

Surface mining of bentonite and sand and gravel usually has little effect upon geology because the mine area is very shallow.

Effects on Topography

Oil and gas development does have some effect on topography, but it usually is not significant. It is known that the rougher the terrain and the greater the slope, the higher the probability that site-specific topographic changes will occur. The steeper sloped areas in the PRRA are generally confined to areas where occurrence of oil and gas resources is considered low or moderate. The number of oil and gas wells drilled in those areas probably would be low.

Surface mining would affect site-specific topographic features in the long term, assuming mine life would be greater than ten years. Mining for coal, uranium, and bentonite would have the greatest effect on topography. Coal and uranium mining probably would be limited to northern Converse County in the short term. The terrain in

that area has little topographic relief; thus, topographic changes after reclamation should not be significant.

Bentonite mining in Natrona County occurs in rougher topography, so some noticeable topographic change after reclamation would be more likely in that area.

In situ mining could cause slumping of the surface. No slumping has occurred from the Hoe Creek project in Campbell County, where the terrain is similar to that of northern Converse County. However, slumping is a possible impact that could occur from in situ mining in the PRRA. If it occurred, it would of course result in significant site-specific changes in topography.

Effects on Mineral Resources

There is a high probability that oil and gas development would occur simultaneously with other mineral development on the same site. These conflicts are usually mitigated through agreement of lease holders or mining claimants. In the federal coal lands in northern Converse County, existing oil and gas development would have precedence over new coal leasing on 5,700 acres. This precedence would be maintained unless it could be shown that extraction of coal on some future lease would not interfere with the economic recovery of the oil and gas resource. This has a beneficial effect on recovery of the oil and gas resource.

Salable mineral availability is affected by the same land use decisions that constrain development of the oil and gas resource. The most significant of these is the prohibition on use of sand and gravel resources within ¼ mile of the North Platte River. This limitation is significant in that major deposits of this resource are available within the buffer, which is close to major consumptive centers and to transportation facilities. There are no estimates on the amount of sand and gravel within the buffer; however, about 12,800 acres within that buffer contain sand and gravel.

It is assumed that the demand for sand and gravel will increase, especially near the urban centers. Increases in other mineral development creates an increase in the consumption of sand and gravel. At present, we can foresee no shortage in the availability of sand and gravel in the next ten years except in the Casper area, where the supply is short and probably will become shorter.

Effects on Vegetation, Soil, and Water

The land use with the most significant effect on vegetation, soil, and water resources is unquestionably mineral development. Mineral development in the PRRA is extensive and intensive in certain areas.

On the average, about 170 oil and gas wells would be drilled annually in the PRRA. The well site and associated service facilities require from 5 to 10 acres depending on the topography. For this analysis, it has been assumed that one well would require 7.5 acres and be drilled to a depth of 8,500 feet. Resources used during development of one well would be about 1,500 cubic yards of aggregate, 26 tons of bentonite, and 2,900 barrels of water (at a rate of 1 barrel, or 35 gallons, for every 3 feet of well depth).

Vegetation

About 1,275 acres would be disturbed each year by oil and gas activity; therefore, 12,750 acres would be disturbed in ten years. All vegetation is removed during development, so that it would be lost in the short term. More than 95% of the total acreage disturbed would evantually be reclaimed successfully.

The success rate for oil and gas drilling in the PRRA is about 60%. Of the 12,750 acres disturbed in ten years, 60%, or 7,650 acres in producing oil and gas fields would not be reclaimed for 20 years or more. Reclamation of the remaining 40% of the disturbed area would be completed in the short term.

Other mineral activities—bentonite, uranium, coal, and sand and gravel extraction—will disturb, at the most, about 700 acres per year. At least as many acres would probably be fully revegetated every year as are being taken out by new production.

Vegetation on rehabilitated sites would be of a different quality and quantity than that on the original site. There would be fewer native species, and native shrubs would not be successfully reestablished to the extent that they were present before surface disturbance.

Soil

Mining affects soils by alteration of existing soil characteristics and properties such as soil microorganism composition, structure, texture, organic matter content, infiltration rate, permeability, water holding capacity, nutrient level, soil-climatic relationship, and productivity, all of which have developed over geologic time. The established levels of soil productivity would be lost and probably would not fully recover to present levels in the long term.

The profile of the soils could be drastically affected during mineral development. The topsoil is removed and unavoidably mixed when stockpiled. Mixing could be particularly critical on areas of shallow soils. If the topsoil is mixed with underlying materials unsuitable for plant growth, the resulting combination is often less productive than the original topsoil. These actions can result in a long-term loss of soil fertility and increase the difficulty of reclamation. Approximately 54% of the PRRA is charactrerized as having some amount of shallow soil components; therefore, impacts resulting from soil mixing in disturbed sites can be significant on specific sites.

Soil compaction is caused by the movement of vehicles and equipment over the soil surface, and it results in a reduction in water infiltration and soil permeability. Root growth of plants may also be excluded from areas where compaction has occurred during reclamation. When the protective vegetative cover is removed, soil material is particularly susceptible to erosion.

The exposure, compaction, burial, stockpiling, disturbance, and contamination of surface soil would cause reductions in the current levels of soil productivity and increase soil loss from wind and water erosion. Stockpiling surface soil material would degrade biological, chemical, and physical properties, causing reductions in productivity when used in reclamation (USDA, FS 1975a). Accidental spills of oil, gasoline, and other toxic materials could contaminate and sterilize the soil horizons, rendering the affected soil unusable for reclamation, but such accidents would be localized and of little relative significance. Any such contaminated material would be buried as required by the Surface Mining Control and Reclamation Act (SMCRA).

Mining could expose material that contains chemical constituents such as selenium, boron, or uranium, which would be harmful to plants and animals. Any such material identified would be buried as required by SMCRA. Other materials found in the area that could hamper reclamation are those of high alkalinity or salinity, sand, or clay-textured material, and material with low ion-exchange capacities.

Wind, which is nearly constant in this area, would blow fine particles away from exposed surfaces. Before exposed, disturbed, or stockpiled soils could be revegetated, high intensity storms in late May or June could cause increased water erosion. Such storms occur in this area about once in 10 to 25 years. Effects on disturbed soils are impossible to quantify.

Leakage from reserve pits during oil and gas development has been documented on an average of 3% of the sites in the PRRA. This leakage contaminates the soil and hinders reclamation. Leakage occurs when pits are constructed from porous soil materials with high sand content which has a fast permeability rate. It also can occur through dikes that have been constructed during the winter, because snow and ice mixed with soil during construction have melted.

Water

If a reserve pit leaks, ruptures, or overflows, drilling muds and production fluids can contaminate live water, in addition to killing vegetation and contaminating the soil. The materials stored in reserve pits typically contain toxic materials, brackish water, and oil. Their chemical constituents may include chlorides, chromates, hydrochloric acid, sodium hydroxid, and phosphates. BLM field personnel estimate that 3 pits in 100 leak or break.

The effects of breaching a pit are both chemical and physical. Chemical pollution can result from the direct contamination of water bodies and from contamination of soil, which may release materials slowly over long periods. Physical degradation of water quality can result from destruction of vegetation, which causes increase runoff and erosion and, consequently, increased levels of suspended sediment. These impacts can last for several years, until cleanup and reclamation are completed.

Oil spills are another impact associated with oil and gas production. Oil spills generally occur when the oil is in transit, but they also can occur from blowouts during exploratory drilling and development. Oil entering a live water body can have a significant short-term effect, making the water unsuitable for domestic use and for wildlife, livestock, and agricultural and industrial uses. If unchecked, the impact from a spill could extend for miles throughout many drainages. BLM field personnel observed oil spills in 1981 on several well locations throughout the resource area.

Produced water from oil fields is a source of significant amounts of dissolved substances. Produced water is defined as underground water that surfaces through oil and gas wells and is disposed of by reinjection, containment, or discharge after treatment for oil removal. The temperature of produced water is frequently high, adding large amounts of heat to receiving waters. Elevated temperatures reduce the saturation concentration of dissolved oxygen. This reduces the suitability of the streams for sustaining fish populations and limits the stream's capacity for processing organic wastes. BLM personnel have observed temperatures as high as 35 degrees C (95 degrees F) in produced water discharges.

Produced water discharges spot-checked by BLM field personnel in the Salt Creek oil field have had conductivities as high as 17,500 micromhos and TDS concentration up to 13,210 mg/l. Chloride concentrations up to nearly 3,000 mg/l have been reported. The highest observed oil and grease level was 46.1 mg/l. Laboratory analyses are on file in the Casper District Office. The values listed above all exceed the maximum permissible levels established by the Wyoming DEQ. Salt Creek is not the norm, but it is an excellent example of what can happen from past oil development that was subjected to little or no environmental control.

There is potential for oil and gas development to pollute groundwater. Shallow alluvial aquifers at depths of less than 100 feet are susceptible to contamination from the surface if surface spills of oil or toxic substances percolate downward to the water table. This could render the waters unsuitable for domestic and livestock use, depending on the extent and severity of the pollution.

Deeper aquifers can be contaminated during drilling operations. The quality of water in each formation varies; a fresh water formation may exist above or below a briny water formation. If drill hole casings are not properly cemented, mixing of water from different aquifers can degrade high quality groundwater. Infiltration of drilling fluids also can degrade local water quality, resulting in some cases in the pollution of supplies for a municipality such as Douglas, which obtains its water from the Madison Formation.

Injection of water during secondary oil recovery can cause degradation of groundwater quality. If the injection well casing is inadequately cemented, water flowing back up around the outside of the casing will contaminate any aquifer through which it passes.

Regulations require that drill hole casing be cemented in place to a depth of at least 150 feet or more, if necessary, to prevent mingling of aquifers and contamination by toxic materials. Failures, or leaks, occur in 0.5% to 1% of the wells drilled (USDI, BLM 1980a). Usually the amount of drilling fluid or brackish water that infiltrates the aquifer(s) is small and greatly diluted by mixing in the aquifer; therefore, no significant impact ordinarily occurs.

Fracturing the rock in the oil-producing zone is often part of developing a well. This process consists of opening up small fractures in the producing rock and pumping sand into them. The process aids in directing the flow of oil to the well bore hole, thus locally increasing the permeability of the rock. Improper fracturing is another potential source of interformation contamination.

Very little accurate information is available on long-term changes in groundwater quality associated with existing oil and gas development in the PRRA; therefore, quantative projections of the impacts of future developments are not reliable. It is likely that adverse impacts of groundwater quality will be highly localized and result mostly from isolated incidents such as spills and reserve pit ruptures.

Impacts from groundwater resources during coal mining would occur primarily in the vicinity of the mined area and would have little effect on the regional groundwater systems. Impacts include removal or modification of aquifers, interruption of groundwater flow during mining, modification of flow after reclamation, and changes in water quality.

The impacts of uranium mines on the water resources of the region are discussed in detail in environmental statements dealing specifically with individual uranium mine plans; therefore, no further discussion of the subject is included in this analysis.

Mining of new federal coal would result in the removal of the lowest coal aquifer mined and all aquifers above it. Coal beds are usually the most extensive shallow aquifers; whereas sandstone aquifers in the overburden and interburden are usually lenticular beds of relatively small areal extent.

Modification of groundwater flow after reclamation results from breakup of the layering that generally occurs in native formations of the region and from modification of the slope of the land surface. In many parts of the region relatively impermeable shale layers interbedded with sandstone and coal cause perched zones of saturation to form. Where perching layers outcrop, springs or seeps occur. The replaced spoil is relatively uniform in composition so that vertical and horizontal permeability are similar, thereby eliminating perched zones and their springs and seeps and increasing recharge to the water table.

The removal of springs and seeps from their former locations would affect the plants and animals that depended on the additional water at those locations. Springs and seeps might reappear at different locations after reclamation was completed, or the extra recharge to the water table might discharge into streams. The overall impacts of mining would be to change the pattern of groundwater flow permanently, but mining would not permanently diminish the quantity of water available in the area of the mine.

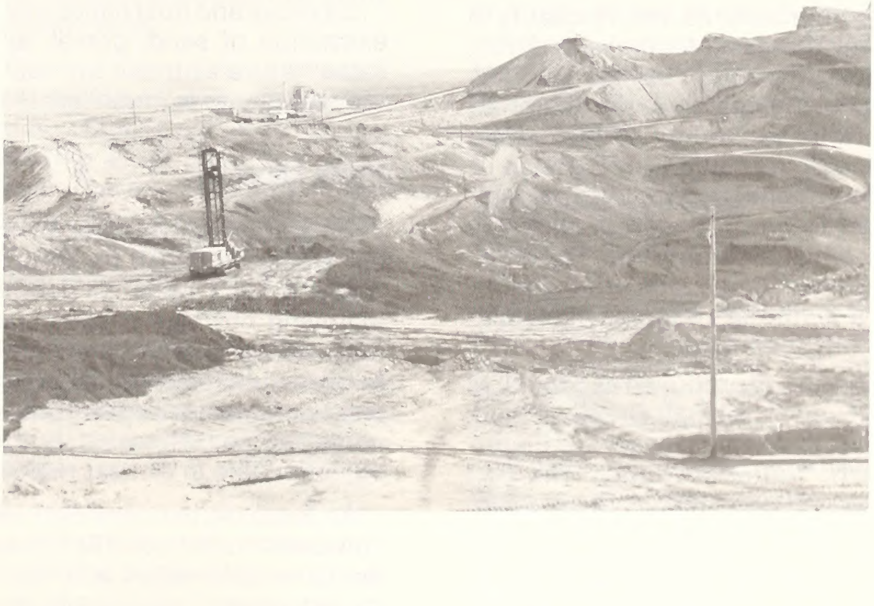
Surface runoff from reclaimed areas might be altered slightly by temporary changes in infiltration rates. The effect would be relatively minor and short-lived because infiltration on spoils would become similar to infiltration on native rangeland as root systems developed.

Discharge from coal spoils aquifers may contain concentrations of dissolved solids that are two to three times greater than those in the adjacent undisturbed aquifers. This water could be cathartic and marginal for use by livestock and wildlife. Most of the discharge from spoils aquifers would occur as small springs and seeps in ephemeral stream channels, which would delay and reduce the effect of that discharge on the quality of water in perennial streams.

In situ uranium mining consists of injecting solutions containing sulfuric acid into the ore zone. The solution bearing the uranium is pumped out of the formation. This provides increased possibilities of aquifer contamination by both the injected solution and radioactive material.

Effects on Visual Resources

Surface mining would have a greater effect on scenic quality than any other energy-related activity. Strip mining changes the form, line, color, and texture of the landscape. Silos, conveyors, and structures change the line and color; and access roads, railroad spurs, and power lines change line and texture.



Effects on Air Quality

Oil and gas activities affect air quality through the production of dust, vehicle emissions, and the emission of gases from petroleum products and hydrogen sulfide from wells. These emissions are usually restricted to the vicinity of the oil fields, transportation routes, refineries, and gas plants.

Gaseous emissions produced by most petroleum production and refinery operations are generally limited to the vicinity of the operation. Refineries in Casper process oil produced in the PRRA; this results in the release of particulate and gaseous emissions over the city, which can readily be observed at times.

During the exploration for and development of oil and gas resources, escaped hydrogen sulfide gas in lethal concentrations could destroy animal and human life in the vicinity of the source. The probability of this is high when drilling is done in certain formations in various parts of the resource area. This short-term impact would have a minimal effect on the long-term productivity.

Hydrogen sulfide gas as an irritant could have a long-term effect at the "nuisance" level. According to the Wyoming DEQ, nuisance levels are as follows:

> 70 micrograms of hydrogen sulfide per cubic meter, ½ hour average, not to exceed two occurrences per year, or
>
> 40 mircograms of hydrogen sulfide per cubic meter, ½ hour average, not to exceed two occurrences in any five consecutive days.

Under normal circumstances, the air quality in the PRRA meets the state and federal standards; however, poisonous hydrogen sulfide gas has been known to be produced by some scattered wells in central Natrona County when certain limestone or dolomitic formations of Permian or older age have been penetrated. Hydrogen sulfide also is known to be produced in Niobrara County near the Converse County line. The emissions have been known to occur in lethal quantities, resulting in a temporary site-specific violation of Wyoming DEQ standards.

Hydrogen sulfide also is produced as a result of secondary oil recovery in the Salt Creek oil field, which surrounds the towns of Midwest and Edgerton in northeastern Natrona County. The Salt Creek Hazardous ACEC plan (USDI, BLM 1980b) discusses this situation in detail.

Coal mines would be major contributors of particulate emissions. Fugitive dust emissions would result from a number of activities within the mines, including blasting, coal and overburden loading and dumping, haul road and access road traffic, and wind erosion of exposed areas. The impact from an individual mine would decrease rapidly beyond the mine boundary. Localized violations of short-term air quality standards could occur if unfavorable meterologic conditions persisted for several hours.

According to a report prepared for the BLM by PEDCo (1983b), coal mining under present conditions does not violate federal air quality standards. The Wyoming 24-hour standard of 150 micrograms per cubic meter could be violated if new mines were constructed; however, the state of Wyoming does not consider this 24-hour standard when evaluating coal mines because Wyoming believes there is no adequate analysis technique.

Uranium mills and mines generate significant amounts of fugitive dust. The major sources of fugitive dust from the uranium mines include mining operations, access roads, ore crushing and screening, conveying, and handling.

Small amounts of hydrocarbons, carbon monoxide, and oxides of nitrogen are released from vehicles, steam generators, and other combustion sources within coal and uranium mines. Because of the small quantities emitted, the effects on surrounding air quality are expected to be insignificant.

Diesel locomotives operating on the railroad lines would increase emissions. These emissions would be intermittent and confined to a narrow corridor following the lines.

Gaseous and dust emissions resulting from the extraction of sand, gravel, and dust are of the same nature as those for coal mining; however, the magnitude is much less.

Noise Impacts

Oil and gas development increases noise levels. Noise produced by equipment constructing roads, drilling wells, or pumping oil not only is annoying but may exceed standards set by the Occupational Safety and Health Administration for exposure to noise. The change in noise level is most noticeable in rural areas where the primary noise source is the wind, but noise may be most objectionable in or near residential areas.

An increase in noise level—90 to 112 dB(A) as compared to 30 to 80 dB(A)—would occur during the period of seismic activity. This could disrupt the activities of wildlife and domestic animals.

Although the increases in noise levels in producing oil fields are of longer duration than those of geophysical exploration, the impact of these noises on wildlife and domestic animals would be similar to that of noises occurring during seismic activity.

Oil fields near communities or housing units would constitute a nuisance to the inhabitants. The impacts from electrified fields would be less severe than those from other oil fields.

Coal development in northern Converse County would significantly raise noise levels at the mine site. Noise probably would be increased adjacent to transportation routes, particularly railroads.

Noise levels would increase to above the nuisance level at mine sites for sand and gravel and bentonite operations.

Effects on Wildlife

Wintertime oil and gas production has occurred at times over the past 30 years or more on the top of Pine Mountain with unknown, but probably minor, disturbance to bald eagles. Current oil and gas exploration and development are increasing access into eagle habitat in that area. If new production should occur, it would place human activity near the same elevation as bald eagle roosting areas.

A buffer zone would prohibit oil and gas activity within ½ mile of winter roosts. It is expected that noise and visual disturbances occurring beyond the ½ mile buffer would cause minimal disruption to the eagles. Similar impacts are occurring at the Antelope Creek roosting area.

Production during winter could occur within ½ mile of other roost at Jackson Canyon, Little Red Creek Canyon, and Box Elder Creek Canyon and within ¼ mile of feeding areas along the North Platte River. However, there is little oil and gas activity in those areas. Buffer zones are considered adequate to keep disruption to roosting and feeding areas to a minimum should development occur.

Oil and gas activity would destroy about 1,275 acres per year of big game habitat, mostly in summer and yearlong ranges for antelope and deer. Little disturbance occurs in critical winter ranges or in elk habitat.

Very little of the 1,275 acres of sagebrush-grassland destroyed by oil and gas activities each year is important habitat for upland game. Some of this would be used by sage grouse, but no fields and few exploratory wells are in the breeding, nesting, and brooding areas.

Recent activity in west central Converse County has included destruction of 40 acres for road and pad construction in a 1,000-acre sage grouse complex. Continued loss of this habitat could occur from oil and gas development, though the area has been identified as unsuitable for further consideration for coal leasing. Coal development from the Dave Johnston mine and other activities apparently have already caused abandonment of sage grouse leks west of the mine.

The 1,000 to 1,500 acres destroyed per year by oil and gas development takes place mostly in the sagebrush grassland habitats, which destroys active bird nests and nesting habitat. This is the most abundant habitat type in the resource area, so the loss probably is in the range of less than 1%. Rehabilitation of sites provides a long-term change in vegetative type, adding diversity and interspersion of habitats. Development of coal and of salable and locatable minerals causes similar impacts on 600 additional acres per year of sagebrush grasslands.

Exploration or development of locatable minerals would be permitted in or near eagle roosts and in feeding areas along the North Platte River, except in about 3,000 acres along the river southwest of Casper, where a protective withdrawal applies. Such activity during winter would almost surely cause abandonment of the affected roosts or feeding areas.

Losses of mule deer and antelope through death or relocation would occur in the vicinity of coal mines from a combination of poaching, road kills and accompanying urban development. Mine locations, access roads, and railroad spurs would be likely to disrupt local daily and seasonal movements.

Effects on Land Uses

Farming and Ranching

Surface mining and oil and gas production would affect farm and ranch operations. Utilities that would serve these industries would add to the impact. The greatest impact would occur from new surface mining, should that occur.

At the rate of 7 acres per AUM, about 180 AUMs of forage per year would be unavailable for livestock consumption because of vegetation loss. The loss would be long term on about 60% of that acreage. On the other 40%, the land probably would be reclaimed within two years.

Surface mine development would result in long-term loss of livestock forage in northern Converse County, in bentonite mining areas, and at sand and gravel pits. The loss at the present rate would be about 700 acres per year, or about 100 AUMs. There are no estimates on forage loss from active mining claims. The loss probably is not significant.

Heavy vehicles traveling on access roads increase the hazard of livestock injury or death. Since the rate of occurrence is unpredictable, this impact cannot be quantified.

Drilling in or near a lambing or calving pasture during the spring is disturbing for livestock, especially the newborn. Noise also can become a nuisance to the landowner. Other hazards of the drilling and production phases are that livestock can become mired in mud or can drown in unfenced reserve or production pits, or the animals may drink water contaminated with toxic chemicals.

Recreation

Vehicular travel over undisturbed areas now suitable for primitive types of recreation would reduce the desirability of these areas for hiking, horseback riding, hunting, and other primitive types of recreation. The degree and longevity of the disturbance would depend on the method and location of exploration activities and the success of rehabilitation.

Noise, visual intrusions, and odors associated with oil and gas production could diminish an area's aesthetic value, disturb or eliminate normal use patterns, and, depending upon the actual location of the surface disturbance, minimize the importance of an area as a recreation site.

The health and safety aspects of oil and gas development affect individuals engaged in any activity. Risks have been reduced through normal operating procedures, yet they persist through the potential for human error, mechanical failure, or chance. A common precaution for the reduction of the risk of sickness, injury, and death is the physical separation of the individual from the source of the hazard. These hazards, whether real or perceived, keep people from recreation in oil fields. In addition, some operators openly discourage the use of their fields for recreation purposes.

Effects on recreation resources from coal development could be significant if new coal mining occurred. Increases in population are expected to increase use of available recreation sites.

Socioeconomic Effects

No effects from oil and gas are expected to occur. Industry-related businesses that are engaged in oil field-related activity are fairly well established.

A significant impact could occur from opening of new surface mines. This would result in a need for new community services. This need would be most likely to occur at Douglas, Glenrock, or perhaps at Bill. Traffic probably would increase in these areas.

Public revenues associated with new coal production could be significant. In total, the economic health of Natrona and Converse counties will remain closely associated with the health of the minerals industry.

Short-term Use versus Long-term Productivity.

The prohibition of use of gravel in the ¼ mile buffer zone near the North Platte River will probably result in a shortage of that material in the short term.

On-site surface mining projects would affect topography and geology. The effect probably would be long term.

About 2,000 acres of native rangeland would be destroyed annually as a result of mineral development. Forty percent would be rehabilitated in 2 years; 60% would be out of production for 10 years or more. New vegetation would be of different quality and quantity.

There would be impacts to soils and water in the short term. The physical and biological structure of soils would be altered, which would affect the long-term productivity of those soils. Water would be affected by spills, leaching, and destruction of aquifers.

Soil productivity on reclaimed areas would vary depending on soils types and reclamation practices on each project. Productivity might be reduced by alternation of topsoil thickness, quality, salinity, alkalinity, acidity, or clay content. If these factors should retard reclamation, erosion could increase. There also would be a reduction in productivity of stockpiled topsoil from loss of seeds, roots, microorganisms, organic matter, and nutrients.

Produced water from oil development would increase the temperature of receiving waters and affect the biology of that water source.

Unavoidable localized increases in sedimentation and loss of aquatic habitat would result from mining and associated activities. Disruption of the shallow groundwater system would destroy some point-watering sources and lush forage along streams and possible alluvial valley floors during mining. The loss of watering sources would discourage stock and wildlife grazing in the affected areas.

The probability of accidental spills of oil and toxic substances would increase with increased oil and gas activity, thereby increasing the probability of contamination of surface water and groundwater. Another unavoidable adverse impact would be the interformation groundwater contamination and leakage of toxic substances into shallow aquifers that could occur in spite of the application of standard surface protection measures (0.5% to 1% of wells drilled). This impact could render some shallow wells unsuitable for domestic and livestock use.

Air quality would deteriorate in the vicinity of oil and gas wells during development. Surface mining would result in a long-term impairment of air quality at the mine site. Appurtenant facilities would add to the impacts on air quality.

Noise would increase significantly in areas of mineral operations.

Mineral development would affect the visual quality in the area of development. It also would result in wildlife losses in the short term.

Mineral development would cause the loss of about 280 AUMs of livestock and wildlife forage annually.

Mineral development would continue to be the largest employer in the resource area and the largest contributor to wages and revenues.

Mineral development would preclude other land uses on site for the duration of the project.

Unavoidable Adverse Effects

About 5% of the surface disturbed by mineral development would not be successfully reclaimed.

Extraction of minerals would continue in the PRRA, and in some instances the geology would be affected. Impacts that might occur to geology cannot be quantified.

Surface mining for coal and uranium or in situ development would have site-specific impacts on geology.

Loss of forage and habitat for wildlife use and livestock consumption would be unavoidable, as would loss of wildlife due to mineral development. Changes in land use that would accompany mineral development would be unavoidable.

Soil contamination can result if spills of petroleum products, bentonite, drilling muds, or poor quality water occur. Leakage from the reserve pit can seriously retard the reclamation potential of the affected area, both on site and downslope. Pollution of water sources would be unavoidable if such spills occurred.

Water in aquifers that develop after reclamation would be of poorer quality than that in the premining aquifers. Such water could exceed levels recommended for drinking water and irrigation.

Irreversible and Irretrievable Commitment of Resources

The loss in soil productivity or loss of vegetation on about 5% of all the area disturbed would be irreversible, as would some loss of wildlife and associated habitats.

Changes in land use that accompany mineral development would be irreversible. The federal coal mined from new leasing would be used; therefore, it would not be available for future use.

The probable changes in geology that would affect local aquifers would be irreversible.

Conclusion

Decisions that seek to protect various resource values do not have a significant effect on the availability of the oil and gas resource. Conflicts can usually be satisfactorily resolved in such a way that development occurs and the resource is adequately protected. Undoubtedly the impacts from oil and gas development would increase without environmental constraints. Oil and gas development and the constraints upon that industry were not an issue in the RMP; thus, there would be no change in present management.

Exploration for and development of locatable minerals in the PRRA is not an issue. There does not appear to be any significant reason for changing the manner in which these minerals are managed. The proposed withdrawals would affect the availability of these minerals; thus, our attention should be focused on not attempting to withdraw an area that is valuable for locatable minerals unless surface resources are unique.

The federal coal lands available for further leasing consideration amount to about 555 million tons covering a surface area of about 30,000 acres. In addition, coal beneath 11 PRLAs (807 million tons covering about 21,000 acres) could be mined in the future pending processing of those PRLAs. There are no land use conflicts on these coal lands, and there was no issue related to coal developments. The amount of coal now available probably would meet any future demand for this resource in the PRRA. Thus, any future development of the coal resource would be confined to the area in northern Converse County within the life of this plan.

At this time it appears that the demand for sand and gravel is being satisfied. Gravel supplies from sources outside the ¼ mile buffer on the North Platte River are adequate to meet future demands. The resource within the North Platte River buffer would be available for use at some future time should the demand be greater than can be satisfied from other sources. The issue that too much sand and gravel is not available in the ¼ mile North Platte River buffer does not appear to be based upon resource availability. It appears that the issue is based upon the ease of resource recovery at the least cost.

Fire Management Program

Effects on Vegetation and Soil

Vegetation

Fire management would affect two vegetative components, forestlands and sagebrush/grasslands.

Forested areas in the resource area would continue to be managed as full suppression areas. Fire would be used as a management tool to clean up slash produced in firewood and in post-and-pole harvests. This method, if used, would probably be a "pile and burn" operation; thus, the benefit would be high in reducing slash. Pile burning could sterilize soils and result in eliminating vegetative growth for several years.

Prescribed burning could be used in some forest stands in the Muddy Mountain area to thin trees. The burn would destroy the surface vegetation in the short term, but it would open up the stand and promote faster growth of the more dominant trees. The impact from using fire in this manner would be low, since the surface vegetation could be expected to be healthier and more vigorous within one year.

About 2,000 acres of sagebrush would be controlled during the next ten years. Prescribed burning would preserve broad-leafed plants and leave a grass-forb mix. Sites chosen for brush control would be those that contain a good understory of grasses and forbs, so no seeding of additional plant species would be necessary. Range condition would be likely to improve from favorable to good after brush control measures. When water previously used by brush becomes available to grasses and forbs, their total biomass production should increase to two or three times the original amount. On some sites, sagebrush probably would reestablish itself in 10 to 20 years; in others, brush control would change the vegetative composition of native vegetation for as long as 30 years.

Soil

Burning would cause localized short-term changes in the soils' physical, chemical, and biological properties through the consumption of ground cover and litter accumulation. The severity of the impact would depend on the fuel type and the intensity of the fire. Burning could decrease soil infiltration rates in some soils, causing accelerated erosion and the removal of some nutrients. An increase in water yield of up to 15% for up to ten years could be expected (USDS, FS 1975b).

After burning, concentration of calcium and magnesium could be greater in the surface soils, and the water soluble potassium concentrates could be fewer. Total nitrogen could be lower in soils of the burned area, which would decrease soil productivity. The overall effect of plant production would depend on the initial concentration of these nutrients in sites selected for burning. Typically, good grass cover has been reestablished within two years through natural regeneration.

Effects on Visual Resources

Prescribed fire would probably result in a short-term visual impact, especially in forested areas where recreation use is heavier.

Effects on Air Quality

Air quality would be poorer in the immediate vicinity of prescribed burns and wildfire and downwind for a short distance during active burning. Wyoming DEQ standards could be exceeded during such periods; however, this short-term change would be insignificant. Airborne dust would increase immediately after the burn and until grass could be reestablished.

Noise Impacts

During the period of burning, noise levels would increase from approximately 30 dB(A) to approximately 90 dB(A) because of the use of trucks and water pumps. Noise level increases would occur only during the period of vehicle and equipment use.

Effects on Wildlife

Prescribed burning would increase spring and summer forage for antelope on the Bates Creek allotment. Such treatment in the Bates Creek Reservoir complex has converted tall, dense stands of sagebrush to a mosaic pattern of interspersed openings. This has been beneficial for antelope and has increased sage grouse brood rearing and summer habitats (450 acres in 1983) because forbs, grasses, and insects have increased. However, escape cover has decreased.

Effects on Land Uses

There is no accurate way to predict the quantity or magnitude of impact on recreation caused by the occurrence of wildfire or the subsequent fire suppression actions. Fire damage to range vegetation most often would be short term, and recreational activities could be resumed the next year. Forested areas probably would be more severely damaged by wildfire; thus, many recreational activites could be delayed for a longer time.

Socioeconomic Effects

There would be a positive economic benefit on allotments where prescribed fire would be used. The benefit would be derived from an increase in usable forage.

Short-term Use versus Long-term Productivity

Use of fire to enhance forest or rangeland management would benefit those resources through increased forage and improved range condition. However, available forage would be reduced in burn areas for one growing season.

Use of prescribed fire would create local short-term impacts on vegetation and soils, possibly one to two growing seasons. There could be an increase in soil erosion in the short term, resulting in possible sedimentation of water sources.

Air quality would be diminshed during burning. This effect usually takes one to two days. The impact on air quality could be significant during that period.

Noise levels would be increased in the short term.

Fire use would have a net benefit in wildlife habitat. However, short-term losses of vegetation could cause local reductions in the numbers of game and nongame animals.

The use of fire as a resource management tool would result in the short-term effect of reduced scenic quality.

The primary effect on recreation from prescribed fire would be a short-term effect on hunting.

Unavoidable Adverse Effects

A slight short-term increase in surface erosion would be unavoidable, as would a short-term loss of available forage.

Conclusion

There would be no irreversible or irretrievable commitments of resources under this alternative for fire mangement.

Prescribed fire can be a valuable tool in managing vegetative resources. Increased use should have a net benefit for livestock and wildlife.

The PRRA currently practices 100% full suppression of all fires for the entire resource area. The procedure severly taxes our resources at times because there are too few resources to cover the entire PRRA, and it leaves no option for establishing priority suppression areas. The benefits produced are not significant in relation to the cost. This policy precludes the opportunity to use naturally caused fire to enhance vegetative patterns. Without the option to use wildfire as a management tool, this alternative would only partially resolve the issue of fire management.

Forest Management Program

Effects on Vegetation, Soil, and Water

Vegetation

The forest management program in this alternative would remove trees and damage surface vegetation by road building and vehicle use. Since work would take place in only 4,750 acres at about 105 acres per year, impacts would be slight. Twenty-acre clearcuts in lodgepole pine stands could promote new generation of trees, grasses, and shrubs.

A total of 525 mbf per year would be supplied from existing management sources. The major source for firewood is the Little Red Creek area. Beetle-infested trees would be removed in three to five years. Jackson Canyon would then be used as a source of supply until field work could be completed to determine other logical sources. Possible back-up areas are Deer Creek, Grave Springs, Negro Hill, South Cottonwood/Notches Dome, Baldy Ridge, and Esterbrook.

The present management alternative is restrictive in that it allows a harvest of only 25 mbf annually from Muddy Mountain and does not allow any forest management efforts in the EEA's natural area (675 acres).

Field activities needed to control mountain pine beetle infestation on Casper Mountain and Muddy Mountain would include line surveys, road layouts, timber marking, and sales preparation. Acceleration of these activities could contribute to salvage of material and save residual stands. Lack of beetle control in the natural area on Muddy Mountain probably would result in overkill of trees and could result in the area's becoming a center point for reinfestation of private and state lands, so that the loss of forest products would continue.

Beetle control in Jackson Canyon would result in the loss of about 400 mbf in three years because the trees cut would not be utilized. There is no access to the Jackson Canyon area and no plans to construct a road to allow use of the forest products in that area.

Trespass could increase because we are unable to perform compliance checks and conduct routine surveillance of all forestlands. Effects of trespass include deliberate cutting of dead of dying wildlife reserve trees or other trees not designated for cutting.

Any access roads needed for timber removal would destroy vegetation, but after cessation of use the vegetation would be reestablished. Vegetation along the shoulders of roads also could be temporarily destroyed. Moderate disturbance of vegetation would occur in pioneer routes used for timber removal and in areas of timber skidding. Some vegetative disturbance also would occur when trees were felled on slopes.

Soil

Soils would be disturbed by wind and water erosion in areas of access roads to sale areas, but the disturbance should not be significant. Lesser erosion would occur in cutting areas.

Skidding, when used, would cause moderate amounts of soil disturbance, especially on main skid trails that would be used a number of times. Some soil disturbance would occur from felling trees on slopes. Skidding and yarding operations and road construction would increase the potential for erosion.

Soil compaction would result from heavy vehicle traffic. Compaction reduces the soils' capacity to absorb moisture and results in reduced root growth, which decreases plant vigor.

Water

Selective cutting of timber, with about 50% of the trees left in place, could result in about a 10% increase in surface water production for up to 50 years, after which water production would begin to decline toward the preharvest level (Anderson 1963; USDA, FS 1975b).

Effects on Visual Resources

Timber cutting operations would result in a short-term visual impact. The impact would be most significant from those cuts near recreation areas.

Effects on Air Quality

Air pollution could be expected at sale sites for four to five months per year, when dust levels and gaseous emissions would increase from chain saws, truck exhausts, and slash burning during the removal of forest products. Airborne particulates would remain higher until vegetation was reestablished. Air pollution would not be expected to exceed state standards; the effects would not be significant.

Burning of beetle-killed trees that would be cut in Jackson Canyon would lower the air quality in the canyon, but the impact would be short term. There should be no significant effect on dwellings west of the canyon because most of the smoke would drift up the canyon. Since burning would be done in summer, no effect on bald eagles would be expected.

Noise Impacts

Noise from chain saw operation and vehicle use in cutting areas would upset the solitude of the immediate and adjacent areas and disturb wildlife. Users of nearby recreation areas might be annoyed by these noises.

During tree cutting, skidding, yarding, and hauling, the noise level would increase from approximately 30 dB(A) (probable wilderness background noise level) to approximately 90 to 95 dB(A) during cutting and approximately 90 dB(A) during skidding, yarding, and hauling. A dB(A) level of 75 to 80 is considered to be annoying. Distance from the source lessens the decibel rating.

Impacts associated with increased noise levels include probable nonuse of the noisy area by livestock and wildlife.

Timber cutting near Muddy Mountain and Grave Springs campgrounds probably would cause diminished use of the campgrounds. Campers in open camping areas probably would avoid camping near timber cutting areas to escape annoyance from the noise.

Effects on Climate

Microclimate would be disturbed by tree removal, especially where clearcutting is practiced. More earth would be exposed to direct rays of the sun, and warmer temperatures would prevail. The effect probably would last no more than two growing seasons.

Effects on Wildlife

Pine beetle infestations have resulted in significant tree losses in the Little Red Creek and Jackson Canyon bald eagle roost areas during 1982 and 1983. Beetle-killed trees are likely to fall within five to ten years. Complete loss of the roosting habitat could occur in these roosts under this alternative, since forest management would not be pursued to control the infestations.

This alternative does not propose building of an access road to allow use of the timber resource in Jackson Canyon because such a road would have a significant effect on bald eagles in the area. We would continue to burn beetle-infested timber after cutting. If attempts to control pine beetles were not continued in this area, losses of trees from beetle infestation would significantly affect bald eagle roosting areas in the canyon, with an ultimate adverse effect on the eagles.

Forest management can improve the diversity of lodgepole and ponderosa pine stands through small clearcuts and thinnings, which increase openings and edges of stands, providing a better mix of cover types and increasing food for a large number of bird species. About 100 acres of stagnant lodgepole pine stands have been converted each year, and blue grouse habitat has been improved by the resulting increase in food.

The practices described also can improve deer and elk summer forage; however, under this alternative some stagnant stands of lodgepole pine, ponderosa pine, and aspen would remain untreated and therefore provide almost no forage.

Wildlife would be temporarily displaced during cutting, and there could be some change in the composition of nongame bird species.

Effects on Land Uses

There would be a short-term decrease in grazing and wildlife use in cut areas.

Recreation would be affected by forest management over the ten-year period in three main areas under this alternative. Since Muddy Mountain would continue to be managed as a natural area, there would be no timber harvest on approximately 1,500 acres. About 40 more acres at Grave Springs and Buffalo Creek campgrounds would not be subject to forest management. In those areas, forest management would be limited to removal of pine beetle tree infestation, post and pole cutting, and timber thinning. These activities would have moderate to high temporary impacts in the immediate area of activity.

Effects on recreation from forest product removal could be mitigated somewhat if cutting and removal of trees under the post and pole sales program were restricted to weekdays. Past use data have shown that summer recreation occurs primarily on weekends. For reasons of safety, removal of timber should not be permitted during hunting seasons (generally September, October, and November).

Timber harvest would affect the Muddy Mountain EEA. There would be increased traffic in the recreation area, increased noise, and a change in visual quality. This might detract from experiences in primitive camping, hiking, and environmental education. Approximately 400 acres of the 1,260-acre EEA would be affected, or 32% of the EEA.

Because timber harvest occurs during the camping season, there would be a considerable effect on the quality of recreation. There would be no change in scenic quality except during slash burning. In the long term the visual change from dense forest to thinned forest would be positive.

Forest management efforts are affected by the 25% slope restriction. Logging generally takes place on slopes up to 35%. The 25% limitation could reduce the already limited forest management base in the PRRA. Under this alternative, the manageable base would be less than 2,000 acres. No consideration would be given to waiving the decision. The supply from this base might be exhausted in five years.

Socioeconomic Effects

Under this alternative, about 525 mbf of forest products would be available for public use annually.

Short-term Use versus Long-term Productivity

Under this alternative, future timber productivity would increase by 15 to 20%, or possibly more. This would result from managing the number of trees per acre to obtain maximum growth.

Controlling beetle infestation would reduce the chance of further or new infestations in some areas. Not practicing beetle control in other areas would only prolong the problem. Cutting beetle-killed trees in Jackson Canyon would result in a timber loss in the short term but should preserve long-term use of that area for bald eagles.

Harvesting timber would have short-term adverse impacts, but the long-term effects would be beneficial.

The 25% slope restriction, if applied with no exception, would limit forest management to 2,000 acres.

There would be a short-term impact on visual quality in cut areas, and erosion would increase slightly in cut area in the short term. Soils and vegetation would be affected in the short term by access roads and in the cut area.

Air quality would be slightly poorer during timber harvest. Noise would increase significantly during the cut. There would be a short-term effect on microclimate within the cut area.

Wildlife would be temporarily displaced in the short term.

Unavoidable Adverse Effects

The loss of 400 mbf of timber products that would be cut and not utilized over three years would be unavoidable.

Irreversible and Irretrievable Commitment of Resources

The trees harvested would be an irretrievable commitment of resources; however, if no cutting were permitted, usable material would not be utilized. Under this alternative, 5.25 million board feet of timber would be cut and utilized in ten years.

Conclusion

This alternative would concentrate management on about 4,700 acres of productive forestland. It would not promote management on the remaining productive forestland in the PRRA. Resources would continue to be lost in those areas as a direct result of natural mortality. Pine beetle infestation would not be controlled because the effort proposed by this alternative does not appear to be intensive enough.

This alternative would implement intense management on about half the area's productive forestland. That amount would not maintain or meet the present demand for forest products in the PRRA.

Grazing Management Program

Effects on Vegetation, Soil, and Water

Implementation of grazing systems would have long-term beneficial effects on soils. Rest from livestock grazing during critical growing periods would improve plant vigor, reproduction, and litter accumulation and increase the organic matter content of surface soils. This would cause beneficial changes in soil structure, permeability, and productivity. It also would result in a reduction of sediment in streams in Bates Hole; consequently, surface water quality would be improved in the North Platte River downstream from Bates Creek.

The development of two allotment management plans and construction of range improvement projects proposed for this alternative would improve range condition on 165,000 acres. Fences and water developments that wold improve livestock distribution patterns and proper livestock use throughout a pasture; however, overgrazing would still take place in the area immediately around water sources. It is estimated that distribution patterns would be improved on 130,000 acres. Under this alternative, a total short-term benefit of 846 AUMs would occur through brush control efforts and water developments.

Overall range conditions under this alternative would be expected to remain static or improve slightly over the long term on 1,254,377 acres.

Brush control treatments would increase annual forage production by 2,530 animal unit months after the first two growing seasons. Brush control by burning or chemicals on 2,000 acres would result in an increase in the water yield of up to 15% for as long as ten years (Anderson 1963; USDA, FS 1975b).

Chemical treatment converts a sagebrush/grass/forb ecosystem to predominantly grass; prescribed burning promotes a grass/forb mix. If prescribed burning was the method of brush control selected, there would be little long-term negative effect. Chemical brush and weed control could result in pollution of surface water if spraying was done near or over streams or bodies of water. This could cause destruction of aquatic vegetation and possibly of aquatic animal species. The potential for such effects is considered low.

Grasshopper control on 20,000 acres a year under this alternative could result in contamination of surface water and destruction of aquatic insects and fish if overspray should occur. The likelihood of this occurring is low.

Soil condition and water quality could be improved on up to 100 acres of riparian habitat and subirrigated meadow through the development of range improvement projects.

Soil compaction and erosion would be increased on 331 acres in the vicinity of 199 new water developments and along 95 miles of new fence; however, up to 130,000 acres of watershed condition could be improved by the developments, which would promote improved distribution of livestock and wildlife.

Effects on Visual Resources

Since all proposed grazing projects must meet requirements to avoid high visual class areas, no significant adverse effects on visual resources would be expected.

Effects on Wildlife

Allocation of forage to big game animals in lieu of use by livestock would improve vegetative conditions for wildlife because forage preferred by big game is receiving less total use. This is viewed as an opportunity to improve wildlife forage conditions rather than as a way to solve use conflicts between livestock and big game. Such conflicts have not been recorded. It probably would not cause a reduction of livestock forage. Some additional effort on the rancher's part to move livestock out of big game ranges by the proper dates would be required. Typical critical winter ranges for deer and elk in the PRRA are grazed during the summer by livestock.

Grazing and wildlife studies and monitoring would be focused on deer-livestock competition Pine Ridge, the Hartville Uplift, and Bates Hole. However, no resource damage has been documented on the first two areas. Forage would be reserved for elk on critical winter ranges on Muddy Mountain and the Laramie foothills of south Converse County. Again, no resource damage has been documented on these ranges. If four or five years of studies indicated a forage problem, then livestock adjustments on the small percentage of public lands in the elk ranges would bring about a minimal improvement. Livestock adjustments, if needed on the deer critical winter ranges, would improve browse condition and availability.

Spraying of sagebrush would increase annual forbs in the short-term, grasses and perennial forbs in the long term, and insects during short and long terms. However, a larger percent of sagebrush would be killed and larger areas that are cleared would not be used by sage grouse because of the lack of edges (interspersion of habitats), so the increased foods would provide only a limited benefit to grouse.

Extensive prescribed burns and sagebrush spraying conducted in deer and antelope critical winter ranges could cause 20% to 50% reductions in sagebrush. Since critical winter range foods and cover (mostly sagebrush) are the limiting factors for most herd units in the PRRA, this could reduce deer and antelope numbers in some herd units 10% to 25%. The probability of such losses occurring is considered low, since it is assumed the PRRA wildlife biologist would participate fully in planning prescription burning.

Resting the severly overgrazed pasture in the Table Mountain unit would increase vegetation cover, composition, and structure. Closing the pasture during seasons would provide a buffer for the geese resting in Reservoir no. 1, which is adjacent to this pasture.

Project development of wells and springs would increase sage grouse and dove summer habitats but cause decreases in food and cover because livestock would shift grazing patterns to nearer the new water supplies.

Prairie dog towns could be poisoned, provided that they would be searched first for presence of black-footed ferrets. Any prairie dog towns treated with poison would reduce the potential habitat available to ferrets. Poisoning of prairie dog towns also would reduce habitat for nesting birds and food for raptors. The burrowing owl, in particular, would have less nesting habitat as prairie dog burrows deteriorated.

Effects on Land Uses

Livestock Operations

Grazing management under this alternative would benefit livestock operations because water developments would make more livestock forage available and improve livestock distribution. Improved weight gains in livestock could be expected because livestock would have shorter distances to travel for water. Improved distribution would prevent the future loss of AUMs in previously overgrazed areas. Water developments under this alternative would produce a long-term benefit of 5,400 AUMs in the resource area.

Additional fencing under this alternative would make it easier for ranchers to move their livestock. Additional livestock grazing within the stock driveways would be beneficial in terms of additional forage for some ranch operations.

Recreation

The primary impacts from grazing on recreation would be in riparian zones. In some cases, grazing reduces the desirability of a site so much that recreationists choose not to participate in an activity. However, in most cases, recreationists and livestock can coexist on the same site if use by either is not too heavy. To date, grazing intensity has not been a major adverse impact in high use recreation areas.

New facilities (95 miles of fence proposed) would somewhat restrict the ease of movement of hunters and recreationists. Cattleguards would mitigate movement constraints and should be considered where for public access roads and trails.

Socioeconomic Effects

This alternative would provide 203,704 AUMs to 407 lessees. That forage represents a significant economic benefit to those operators. It is likely that a significant reduction in the availability of that forage could create severe economic hardship on many operators.

The benefit/cost ratio for this alternative would be about 2.69 to 1.

Short-term Use versus Long-term Productivity

Development of two AMPs would improve range condition on 165,000 acres. The PRRA's overall range condition would remain static or improve slightly on about 1,200,000 acres. Range improvements would improve grazing patterns on 130,000 acres and improve watershed condition on 130,000 acres.

Brush control would increase water yields up to 15% and forage production an estimated 2,530 AUMs.

Resting the pasture in the Table Mountain unit would increase vegetative cover and improve range condition.

Project developments would be beneficial for wildlife.

Conclusion

There would be no unavoidable adverse effects and no irreversible or irretrievable commitment of resources under the grazing management program of this alternative.

In evaluating the grazing situation in the PRRA, we know that the areawide range condition is good. There has been a gradual historic improvement in range condition.

Overgrazing, when it does occur, is sporadic and isolated, and it tends to occur in different areas from year to year. There does not appear to be any significant use conflict between livestock and other uses. The exception is Table Mountain. That conflict would be resolved under this alternative.

This alternative would allow supervision of "I" and "M" allotments, manipulation of livestock as needed, and reaction to grazing problems as they occurred. Overall, range condition would not decrease in any allotment. The only weakness in this alternative would be the emphasis on range improvements.

Range improvements on two AMPs would provide a short-term benefit of 846 AUMs (0.4%) and a long-term benefit of 7,010 AUMs (3.4%). Range condition and forage production would be maintained on 1,254,377 acres and improved on 165,000 acres. This alternative would satisfactorily resolve the range management issue.

Lands Program

Effects on Cultural Resources

Standard inventory and site mitigation requirements in advance of land disposal or other land use authorizations that involve surface development would be expected to prevent the loss of significant resources under this alternative. When sites are preserved there is no effect on cultural resources; when data are retrieved or recovered, the effect is not adverse. When required inventory and mitigation efforts lead to identification and documentation of important sites that might not otherwise have been located, the effects can be beneficial. Adverse effects can occur when sites are not recorded in an adequate survey or are damaged or destroyed by surface-disturbing activities. This occurs about 1% of the time or less in land use proposals that involve surface development.

Withdrawals are beneficial in that they preserve cultural resources that might be located within the withdrawal boundary. Usually, lands are withdrawn from operation of the 1872 mining law. Such withdrawals eliminate exploration for and possible mining of locatable minerals. Small mining claims present the highest hazard to cultural resources because there are no requirements for a claimant to protect or preserve cultural resources.

At this time, no withdrawals in the PRRA have been initiated to protect cultural resources. Two have been proposed and are addressed in the lands program. Any mining that might occur inside the Alcova Pterodactyl Track area would have a significant impact on that resource. The area does have value for various salable minerals, but at present it has no apparent value for locatable minerals.

Corridors usually hve a beneficial effect on cultural resources. The corridor route is inventoried and significant sites are avoided by moving the corridor, or artifacts are collected. The present Oregon Trail corridor was established by virtue of existing lineal facilities. The continued placement of facilities along that route could compromise the integrity of trail segments along the route of that corridor. The impact would result from placement of facilities adjacent to these sites and not from destruction of the trail segments.

Effects on Topography

Corridors could affect topography. Major facilities are placed in corridor, and the amount of surface disturbance increases with the size of the facility. The impact to topographic features probably would be low because the corridors are routed around abrupt topographic changes.

Effects on Mineral Resources

Disposal of public lands could result in a financial impact on the oil and gas industry through the creation of split estate. Industry representatives would be required to negotiate access and payment for surface disturbance with private landowners. However, this would have no impact on availability of the oil and gas resource.

Lands utilized for public purpose use are segregated from mining locations, and mineral leasing on those lands is restricted or prohibited.

Disposal of isolated tracts of public land that contain economically minable subsurface coal in northern Converse County would be detrimental to the coal resource. Potential future development would be determined by the surface owner. The development cost for a potential coal lessee would increase significantly.

Disposal of the surface by sale or exchange could impose restrictions on availability of locatable minerals. The minerals would probably be reserved to the United States and therefore legally available for development. However, development usually is a negotiable item for the surface owner. The only way to mitigate the effect of disposal is to retain the surface of lands containing extensive claims or mineral resources.

Disposal of isolated tracts of the public lands that may contain sand and gravel in commercial quantities would be detrimental because the likelihood of mining that resource would be subject in part to the landowner's wishes. There is a high probability that sale of the surface would commit a sand and gravel deposit to nonuse. One way to prevent that from occurring is the field inventory of a tract prior to sale. The likelihood of commercial quantities of sand and gravel being committed via a land sale is low.

Exploration and development of locatable minerals is authorized by the mining law of 1872. Only lands withdrawn from that law would be unavailable for exploration and development of locatable minerals. Proposals in this alternative would withdraw 17 areas containing 38,800 acres. These withdrawals would be fostered by the cultural, recreation, and wildlife management programs.

Most of the proposed withdrawals are in the Laramie range. One is in the South Big Horns, one near Alcova, and four would be used to protect wetland HMPs. Two withdrawals would protect significant historic sites and the Pterodactyl Track site near Alcova. There is no locatable mineral exploration activity or development on or near these areas except the historic site proposals. The Bozeman Trail in Converse County runs through an area significant for uranium. There have been no conflicts to date, but the likelihood of that occurring would be high if those trail segments were withdrawn.

The withdrawals would be subject to any prior mining claims on record, or the BLM would initiate a validation of those claims. Valid claims inside a withdrawal area would defeat the intent of the withdrawal—protection of surface resource values.

Two areas now withdrawn from oil and gas leasing and mineral locations would be maintained, the Naval Petroleum Reserve (9,500 acres) and Camp Guernsey (5,800 acres). The petroleum reserve is under development; thus, there would be no loss of the oil and gas resource. Camp Guernsey is located in an area classed as having low potential for the occurrence of oil and gas. The unavailability of that area should have no significant effect on the production of the oil and gas resource.

It is expected that withdrawing the 17 proposed areas from operation of the 1872 mining law would eliminate oil and gas development. Oil and gas leasing is a discretionary action, but it is assumed that if locatable mineral development is not allowed, then oil and gas development would not be allowed. Some of these areas could be drained by peripheral wells. However, some of the oil and gas resources, if they exist in these areas, would not be available for development.

Corridors would have a beneficial effect on oil and gas development. Major transporting pipelines would benefit from placement in a corridor where land use conflicts have been reduced or eliminated. The smaller lineal facilities for oil and gas wells would not be constrained by placement in corridors.

One area closed to the placement of lineal facilities could have a significant impact on the development of oil and gas. The South Big Horns area is extensive, and the prohibition of rights-of-way would make development of the oil and gas resource difficult.

The Pine Ridge area contains one producing oil field and several other fields near the boundary of the ridge. Eliminating the placement of rights-of-way would severely restrict development of the oil and gas resource. The remaining eight areas are small, and bypassing these areas should present no significant effect on development of the oil and gas resource.

Acquiring access across 148 miles of private land would significantly increase access to the public surface lands. This access would have a beneficial economic effect on developing the oil and gas resource because payments to cross private lands for access to public surface would decrease.

A good analysis of the major impacts of rights-of-way is provided in the PRRA oil and gas EA (USDI, BLM 1982b). The impacts of corridors are basically the same as those created by individual rights-of-way. However, the impacts are intensified both by confinement of many rights-of-way to a small area and by the greater significance of impacts resulting from construction of major facilities.

Obtaining access into the larger blocks of public land would be beneficial in that new sources of sand and gravel would potentially be available for use.

Effects on Vegetation, Soil, and Water

Application of standard stipulations, site-specific mitigating measures, and the use of routing alternatives can reduce or eliminate many potential impacts such as disturbance of wildlife, loss of critical habitat, excessive soil erosion and loss of vegetation, and impacts on other important resources.

The impacts of rights-of-way, including access acquisition, vary according to the kind of activity associated with the right-of-way. Overhead utility lines have minimal effects on the soil resource. Soil is destroyed where poles are erected. Other impacts due to overhead utility lines would be similar to the impacts described for geophysical exploration. These impacts could be mitigated by existing surface protection decisions and standard stipulations.

The establishment of underground pipelines results in the removal and subsequent mixing of the soil materials. When topsoil becomes mixed with the less productive underlying materials, the overall reclamation potential of the topsoil is reduced. Compaction of the soil occurs along the pipeline route from vehicle and equipment traffic. The effects of compaction from limited traffic are negligible, and the current stipulations and surface protection decisions effectively mitigate these impacts.

Both surface water and groundwater can be contaminated during right-of-way construction, maintenance, and operation, when there is a high potential for surface disturbance, erosion, and sedimentation. the greatest hazard to surface water quality occurs during construction of pipelines and roads, particularly when drainages must be crossed, because of the extent and depth of surface disturbance. When properly applied, the standard stipulations applicable to right-of-way construction provide moderately effective mitigation; nevertheless, the residual impacts of a road network and associated vehicular traffic could be expected to increase sediment yields above background levels.

Oil spills, another impact associated with rights-of-way, most frequently occur when oil is in transit. When pipeline construction, maintenance, and operation comply with federal safety standards for liquid pipelines, the probability of accidental spills is minimized; however, the possibility of leaks, spills, and ruptures cannot be eliminated.

Effects on Visual Resources

Rights-of-way would have a short-term impact on visual quality during construction. Long-term impacts would be from above-ground facilities, roads, cuts, and power lines. Revegetation on those areas would result in vegetal composition on the revegetated areas that differs from surrounding native vegetation.

Effects on Air Quality

During construction of rights-of-way, dust is the largest contributor to reducing air quality. The effect is usually confined to a small area around the project. Highways and pipelines are the projects that present the severest dust problems. The effect usually lasts only for the time it takes to build the facility. Highway construction may last one to several years; other right-of-way construction might last from days to a few months.

Noise Impacts

Noise levels would increase in the vicinity of sanitary landfills, areas of agricultural development, developments for small business, and rights-of-way corridors during periods of construction and reclamation. Levels would increase from approximately 30 dB(A) to approximately 100 dB(A). The increase would cause avoidance of these areas by livestock and wildlife during the periods of increased noise levels.

Effects on Wildlife

R&PP leasing or disposal of 480 acres on Casper Mountain would eliminate that area as summer elk range because visitation would increase. Acquisition of easements would increase harvest.

Withdrawals in support of wildlife habitat would have a net long-term benefit in terms of habitat preservation.

Sales of parcels in deer and antelope critical winter range could, if land use changed, cause destruction of food and cover. Disruption to wintering herds would cause a decrease in the vigor and survival of stressed animals.

Sales of public lands that sage grouse use for nesting might result in loss of habitat if land use changed with the new owner. One change that is anticipated is that the surface disturbance stipulation would not be applied, as it is now. That change could cause disruption of brooding and nesting.

Disposal of isolated tracts might reduce furbearers and nongame animals. In most cases this is not likely. Standards that are now applied to buffer zones along streams and riparian habitats of intermittent draws would no longer protect these areas from oil and gas, coal, agriculture, or homesite developments.

Acquisition of 20 acres in the Table Mountain Unit by exchange would increase food and cover for pheasants, doves, and rabbits on the upland portion. It also would increase nesting and brooding cover for waterfowl on the lower portion, through which Dry Creek flows.

Rights-of-way would have a short-term impact on widlife through habitat loss and temporary disruption. Access into areas that are presently isolated might increase poaching and wildlife harrassment.

Effects on Land Uses

Each of the major categories in the lands program would affect various land uses. Disposal of the public lands can be initiated through R&PP use, exchange, or sale or through specific lease arrangements.

Identification of lands for disposal only under the R&PP Act precludes disposal by other methods and reserves the tracts for recreation or public purpose uses consistent with the act. When tracts are adjacent to established recreation areas or communities, disposal for other than public purposes may not be in the best public interest and may eliminate opportunities to meet important public needs or to accommodate projects of local significance. The time limit placed on this restriction provides some flexibility, in recognition that disposal parcels inside Casper's growth boundary by other means might still serve the public interest.

As the "Lands" section of appendix B explains, land can be used for sanitary landfills under the R&PP Act. Landfill needs have been identified in seven areas. An average of 40 acres or less per landfill is common. Impacts from landfills would be high locally on approximately 300 acres.

Disposals under the R&PP Act improve recreation and public purpose opportunities. In many cases, developments are made and services are provided that would not otherwise be available and are not within the BLM's capacity to provide. The cost benefits of the area can be substantial and may provide the only economically feasible means to proceed with many public projects.

Under this alternative, 1,050 acres would be identified for disposal under the R&PP Act. After 1985, 200 acres of this could be disposed of by other means.

Both positive and negative effects would be associated with R&PPs. Public access would be improved, since the lands must remain open to public use and legal access must be acquired by the prospective applicant. Grazing and mineral activity are usually incompatible with or precluded by the project and must be terminated.

The costs to process exchanges can be very high. In many of the identified areas the exchange costs would exceed the public benefits, and little improvement in federal management would result. This situation is in conflict with the law and cannot be considered.

Under this alternative, 33 areas would be identified for exchanges. Acreages cannot be quantified at this time, but they are expected to be high. It is highly unlikely that exchanges can be completed in all 33 areas. This is due in part to a dependence on private landowners to enter into exchanges. More important, limitations are imposed by current funding and priorities, the considerable amount of time that would be required, and the fact that many exchanges would not result in better federal land management and therefore could not be completed.

Positive impacts of acquisition through exchange would be the improvement of management efficiency and quality and reduction of costs when public land holdings are "blocked"; enhancement of resource values and management opportunities; improvement of public access; and reduction of land and resource use conflicts through elimination of inholdings.

Negative impacts of acquisition through exchange would be the possibly high cost of completing land acquisition actions and possible displacement of current lessees (one ranch may suffer a reduction in lease lands while another benefits from an increase).

Sales are the simplest means of disposal and the most cost effective. Under this alternative, 29,000 acres could be sold in Converse, Platte and Goshen counties. It is assumed that ownership would change, but we could not predict the change in land use. On the basis of current funding levels, approximately 1,000 acres per year could be disposed of. This means it would take more than 29 years to dispose of these lands. Site-specific examination might reveal that certain parcels are unsuitable for disposal; such lands would be retained. Market conditions or the characteristics of particular tracts could make the acquisition of land offered for sale unattractive to prospective buyers, further reducing the probability of disposal.

Sale of isolated parcels of the public land would have several beneficial effects. Management costs would be reduced by eliminating management responsibility on small, undesirable parcels. Federal funds currently expended on these parcels could then be redirected to higher priority lands for a more intense and effective management effort. Private land management efforts also could be enhanced through elimination of federal inholdings.

Disposal would provide opportunities to put lands to high uses, both public and private, and to meet important local, state, and national needs.

A high percentage of the small, isolated parcels lack legal access so that disposal would have no negative impact on public use and recreation opportunities.

Grazing lessees and surrounding landowners would be most affected by sales. The bulk of the sale land is rangeland on which grazing could continue. Many ranchers might be unable to purchase these parcels in competitive sales. Owners of adjacent or surrounding land might be burdened by third party inholdings and conflicting land uses.

Other negative effects from sales are that public lands would no longer be available for public use, so existing and future recreation opportunities would be eliminated. Resource values would be transferred out of public ownership and management by the BLM; thus, opportunities for federal development and enhancement of resource values would be eliminated.

Land could be leased or disposed of for such uses as agricultural development or small business sites. Current decisions allow for agricultural development in Natrona County; the other counties would be handled case by case. Approximately 14,000 acres within the resource area have been identified as potentially suitable for agricultural development. Limited interest and lack of water and suitable soils would be expected to limit agricultural developments, so there would be few impacts.

Because of the small acreages involved for small business sites and the limited potential for more than a few sites in the resource area, the impacts would be insignificant.

Withdrawals would affect various land uses. Most notable would be the impact on mineral development and land use authorizations. Other resources such as wildlife, recreation, and the cultural program would benefit from withdrawals. Withdrawals are by their nature protective; thus, land uses that promote surface development would in all likelihood be excluded.

This alternative would encourage use of corridors. The lack of policy and commitment to the corridor concept means that we would have to

provide a detailed assessment and rejustification for corridor use on each major action. Quite often the result is use of one of the designated corridors, and a waste of funds and personnel.

Designated corridors have been located to reduce the resource and land use conflicts as much as possible. Construction "windows" (seasonal restrictions) would further reduce impacts caused by displacement of wildlife during critical periods.

One corridor along the Oregon Trail is no longer viable. It is filled in two areas, and further use might cause significant, irreversible impacts to the remaining ruts still present on the trail. Two other corridors, I-25 east of Casper and Wyoming Highway 59, are inconsistent with the criteria since only a very small amount of public land is present. Still another corridor along the North Platte River is in conflict with other programs and planning decisions. Potentially significant impacts to watershed, soils, stream quality, recreation, and scenic quality could result from increased use.

A few of the areas closed to rights-of-way need to be redefined where closure is clearly inapplicable. This causes unnecessary delays and added costs for applicants and may preclude a viable, needed proposal.

Closure of the areas to rights-of-way would preserve them from the impacts associated with construction. Some areas might be closed if they had unsuitable soils, very rough terrain, or excellent scenic quality that would be unavoidably affected to a significant degree. Such closures might cause economic hardships for some applicants, but they would be minimal.

One potentially significant impact might result from closure of the South Big Horn Mountains to rights-of-way. Oil and gas leases have been issued over most of the area, and prohibiting rights-of-way may preclude such impacts as intense use of access roads for hauling oil, individual power sources at each well location, and numerous storage tanks.

The access easements proposed under this alternative are over existing roads and trails, except where no roads are present and new construction is proposed. New road construction is also proposed in a few areas where easement negotiations have been unsuccessful. In those situations, minor construction would be undertaken if the public had been denied access across the private lands.

This alternative identifies 46 roads covering a total of 148 miles for acquisition of easements or cooperative agreements. Many of the identified roads would provide only limited access to public land or would be merely convenience roads from which the anticipated public benefits would be minimal.

For many of the proposed roads, no management has been specified. This would permit uncontrolled public use, which could lead to vandalism, littering, trespass, and environmental degradation such as ORV use, wildlife disturbance, and damage to watershed values and riparian areas. There is a high likelihood that such impacts would occur on 60% to 80% of the roads. The mere existence of a road would lead to impacts on a smaller scale. As use increased, the impacts would intensify.

Beneficial effects would include improved public access and more use of public land. In addition, easement acquisition goes hand in hand with periodic maintenance, which can reduce erosion and the associated impacts by proper construction.

Socioeconomic Effects

Revenues to local governments would be increased by land disposal actions because these lands would then be placed on the tax rolls. Such revenues would exceed present-day payments in lieu of taxes.

Disposal would provide opportunities to put lands to higher uses such as commerical, residential, industrial, agricultural, developed recreation, public services, and other public and private uses to meet important local, state, and national needs. Individual property taxes would be increased.

Transfer of surface ownership might hamper mineral development by requiring purchase of access rights by developers. A potentially significant impact on ranchers and adjoining landowners might occur through increased inholdings, loss of grazing, economic impacts, and lowering of land values. Focusing a major land sale effort in a county might cause more impact than spreading sales over the entire resource area.

Short-term Use versus Long-term Productivity

R&PP lease or disposal of 480 acres on Casper Mountain would eliminate the areas's use as summer elk range by causing increased visitation. Acquisition of easements would increase harvest. Assuming these areas would be developed, this impact would be long term.

Rights-of-way or other intensive land uses would create short-term impacts on vegetation, soils, and water.

Segregation from mining would prohibit exploration, development, and use of locatable minerals in withdrawn areas. The primary impact on mineral developers would be economic, since the existing minerals would be unavailable and business opportunities would thereby be limited. In some cases, national mineral needs might not be met, and shortages could occur. In the long term, increased costs would be passed on to consumers. Closure to mining would protect existing or potential resource values, public land improvements, and existing and future uses and users.

Sanitary landfilling would result in the disturbance of up to five acres per landfill annually, depending on the location of the facility. Construction of these facilities would cause soil loss through wind and water erosion. Soil compaction would occur in areas receiving heavy vehicular traffic, and compaction would cause increased runoff. Groundwater might be affected through percolation of runoff water down through the garbage and subsoil into aquifers; however, such contamination would not be likely to occur.

Short-term impacts would occur during construction and until reclamation was completed. Long-term impacts might be present in the form of visual intrusion, access roads, and scars.

There would be short-term impacts on air quality and noise during construction of rights-of-way.

Tracts used for R&PP use would provide an immediate benefit to the public. Access acquisition would enhance use of the public lands.

Closure of areas to use for rights-of-way might affect other authorized uses of the public lands.

Sales would have an economic benefit for public resource management and increase the economic return on isolated parcels that would be sold.

Unavoidable Adverse Effects

Some land uses would result in the permanent loss of vegetation. Erosion would increase in areas used for rights-of-way.

Sanitary landfills authorized on the public lands would result in an adverse impact on groundwater and soil.

Elk habitat would be lost on Casper Mountain under this alternative.

Irreversible and Irretrievable Commitment of Resources

Public land that would be sold, exchanged, or used for R&PP use would be irreversibly committed and irretrievable.

Conclusion

This alternative would provide land for disposal. Sale of public land would take place primarily in Converse, Goshen and Platte counties. The exchange proposed for 33 areas would be unattainable. A superior option would be to cut the size of the exchange areas down to a manageable number.

Corridor placement along the Oregon Trail could have a significant impact on the segments of the Oregon Trail.

Access could not be acquired in as many areas as proposed under this alternative.

Withdrawals on most areas proposed would not be compatible with the present withdrawal policy. It appears that most of these withdrawals would not be needed.

Recreation Management Program

Effects on Cultural Resources

Adverse effects would be possible if recreational access into culturally sensititve areas should lead to damage or destruction of sites resulting from off-road vehicle use, unauthorized artifact collection, vandalism, or other acts of destruction, intentional or unintentional. Beneficial effects such as education and public appreciation occur as a result of identification, recording, and interpretation of cultural resources. ORV restrictions would benefit cultural resources by limiting surface disturbance, thereby contributing to cultural resource preservation.

Management and protection of cultural resources tends to support recreational use so far as visual integrity of environment is concerned. However, prohibition of surface disturbance would prevent off-road vehicle use along 1,290 acres of the Bozeman and Oregon-Mormon trails (960 acres each).

Effects on Mineral Resources

Management on four recreation areas through RAMPs would deter development of the oil and gas resources within the boundaries of Muddy Mountain (12,000 acres), Goldeneye (1,153 acres), North Platte River (320 acres), and two environmental education areas (200 acres). The potential of the Muddy Mountain area for oil and gas is rated low. The remaining areas are rated as having high potential. Goldeneye would present the greatest effect on oil and gas development because of its size. It is probable that all these areas rated as high potential could be developed by wells placed adjacent to their boundaries.

It is assumed that the 12 additional RAMPs would exclude surface development within the boundaries of those recreation areas. This would cover 35,480 acres.

ORV designations would not affect mineral development.

Effects on Vegetation, Soil, and Water

Off-road vehicles can cause excessive damage to plants. High timber areas, wet and dry meadows, dry grass/forbs/brush vegetation, and big game winter ranges are susceptible to damage. Much of Natrona County is a high desert with slow regenerative potential following disturbance. Many lower elevation areas would require 10 to 15 years to recover if vegetation was removed or severely damaged. Adverse impacts that could occur are reduction of forage production, deterioration of esthetics, loss of wildlife cover, decrease in tree production, and loss of the hydrologic function of soils.

Plant losses attributed to ORV use range in size from groundcover plants to large shrubs and small trees that might be uprooted, crushed, torn, or broken by machines. Certain types of plants and plant communities, such as alpine meadows, are potentially fragile and vulnerable to ORV damage.

In addition to mechanical damage. ORVs with improperly modified exhaust systems can emit sparks and start fires in dry plant materials. This is a particularly serious problem in the late summer when most of the plant material is tinder-dry. The problems of fire control would also be increased if ORV use brought larger numbers of people to remote areas, where fire accidentally started by smoking or campfires would be difficult to reach and suppress.

Effects on Land Uses

As recreational activity in the PRRA has increased, use problems have also increased. Increasing ORV use has resulted in vegetative damage, increased erosion, and reduction in scenic quality. Firearm damage to signs is common on Muddy Mountain. In the last two years, most ranchers on Muddy Mountain have reported gates left open, gates destroyed, erosion and rutting from ORV use, harassment of livestock, and theft and vandalism to corrals, trailers, cabins, and other private property.

These problems have occurred with increasing frequency in the last few years. Without a management plan, visitor control would not exist and resource degradation would become a more serious problem as use increased.

This alternative would provide for the continued management of eight existing recreation sites on 13,741 acres, or less than 1% of the public land in PRRA. Two of these areas are special recreation management areas requiring intensive management on 12,733 acres of public land. This management would be implemented through two completed recreation management plans. The present management on 21,600 acres of Natrona County is provided through the joint implementation of the Middle Fork Recreation Area Management Plan between the PRRA and the Buffalo Resource Area.

Twelve other areas in the PRRA would be identified as special recreation management areas. RAMPs for these areas would be prepared and implemented to allow increased recreational opportunities and protection of the natural resources. These areas comprise 35,480 acres, or 2.5% of the public lands. The existing and planned recreation areas would provide a total of 49,221 acres, or 3.5% of the public lands in the PRRA.

ORV designations exist for public lands only in Natrona County. There are no open areas, 1,145,590 acres of limited use (82% of the PRRA), and 950 acres of closed areas. Essentially, 82% of the PRRA is managed for designated ORV use. ORV designations would not allow for open areas—a designation for which demand is increasing. A large portion of the area would continue under "limited" designation with little monitoring or supervision. Signing of the area designations would continue on an annual maintenance level.

Two tracts (240 acres) are set aside for environmental education for local schools. A plan needs to be developed for each tract.

Visual resource management classes have to be established for the PRRA. Class II areas (207,000 acres, or 15% of the PRRA) would be managed particularly for the protection of the high quality scenic resources.

As gradual population increases and visitor use data indicate, it is likely that all available funding would be used to sustain resource values and afford minimum maintenance necessary to provide adequate recreational opportunities. The current budgeting outlook affords little support for planning, development, or enhancement. The only opportunity for action on the 12 areas for which plans would be developed would be through cooperative management agreements with other agencies. This could occur if other agencies took responsibility for a large share of management.

Establishment of agreements with landowners for public access easements with no development or maintenance would enhance use without supervision.

Recreation use at Goldeneye Wildlife and Recreation area provides additional food for waterfowl (fish planted by WGFD) and causes some disturbance to nesting and brood-rearing waterfowl from shore fishing. Most disturbance occurs on the south shore, east of the parking area.

Recreation management of the North Platte River Trappers Route landings would result in loss of whatever waterfowl nesting takes place on these public lands. Shifts of nesting to private and state parcels probably would occur. In a sense, recreation management of the landings would then be beneficial to the waterfowl that have shifted to private and state lands, because recreationists would be directed to the public lands, leaving the new waterfowl areas less disturbed.

Socioeconomic Effects

Information obtained from the Wyoming Statewide Comprehensive Outdoor Recreation Plan (Wyoming Recreation Commission n.d.) indicates that although the current municipal park acreage is adequate, there are shortages in most other recreation facilities. Large growth in regional population is expected to make these shortages even more severe by 1990.

It is projected that coal development would cause a 27% increase in the population of Natrona and Converse counties. Projected oil and gas development are expected to result in another 2% of growth. The projected shortages would be compounded by the use of lands for geophysical exploration, leasing and development, and related rights-of-way because such uses would reduce the quality of prime recreation areas.

Short-term Use versus Long-term Productivity

Initiation of RAMPs on 12 areas and maintenance on three existing areas would restrict mineral development.

Artifact collection by the general public (pot hunters) would result in an adverse unavoidable impact on cultural resources. There is probably no mitigating action that could be initiated to avoid this.

ORV use would continue to contribute to losses of vegetation and soil and to increased sedimentation of water in localized areas.

Increased use at recreation sites would alter or decrease the recreation value of those sites and eventually result in long-term resource impacts.

Short-term effects of allowing unlimited access would benefit certain types of recreational interest such as hunting, fishing, and ORV enthusiasts. The long-term impacts of such an action might be reduction of wildlife habitat, degradation of local fisheries, and reduction of forage production for domestic livestock. Destruction of the Oregon Trail ruts might occur over time, and management options could be reduced in many areas.

There would be short-term effects from timber harvest near developed recreation sites.

Present developed recreation sites would not handle the expected increase in recreation use.

Unavoidable Adverse Effects

Loss of cultural resources by pothunters would be unavoidable.

ORV use would continue to have adverse impacts on soil, vegetation, and water, and the recreation quality of developed recreation sites would continue to decrease unavoidably.

Irreversible and Irretrievable Commitment of Resources

Continued increases in recreation use would result in an irretrievable commitment of on-site resources. The esthetic recreation experience would be irretrievably lost because of the increased number of users on existing recreation areas.

Conclusion

For the period from 1985 to 1990, overall impacts on quality of the resource and use would be insignificant. However, as use continued to increase, causing the quality of recreation experience to depreciate over the ten-year period, the resource base would suffer.

Limited personnel and funding could cover minimal planning development and use demands. Use would be accommodated in a widely dispersed manner, but if new areas of use concentration occurred, little could be done to accommodate increasing pressures on fragile areas or areas close to sensitive wildlife habitat.

The issue of meeting the increased need for recreation sites would be met by this alternative. However, spreading meager resources over 16 areas would result in little public benefit.

Soil, Water, and Air Management Program

Effects on Cultural Resources

Land use decisions that restrict or prohibit surface development are generally beneficial in that they promote preservation of cultural resources. The majority of these decisions and directed at areas containing fragile or sensitive watersheds.

Effects on Topography

The 25% slope restriction encompasses about 615,000 acres in the PRRA. The restriction is undoubtedly beneficial in constraining activity that has a high potential for causing environmental damage.

Effects on Mineral Resources

Soil and water restrictions and the associated restrictions in fragile or sensitive watersheds have a significant effect on the manner in which oil and gas resources are developed. The restrictions do not significantly decrease the amount of oil and gas resource that would be available for development. The following are sites or areas where surface development may be prohibited:

> On 12,800 acres of high, moderate, and low potential oil and gas estate within ¼ mile on either side of the North Platte River.
>
> On 2,000 acres of low potential oil and gas estate within 600 feet of the Laramie River.
>
> Within 500 feet of perennial streams, lakes, canals and all associated riparian habitat. Potential for oil and gas in these areas ranges from low to high. The total acreage is undetermined.
>
> Within 500 feet of water wells, within 660 feet of springs, and artesian and flowing wells, and within 200 feet of intermittent and ephemeral streams.

These water restrictions would possibly affect the placement of facilities associated with oil and gas development. However, no restriction would require moving an actual proposed well location far enough to affect recovery of the oil and gas resource. These decisions can be waived if the effects from a well proposal can be acceptably mitigated. The only area where the restriction would not be waived is in the ¼ mile restriction on the North Platte River adjacent to the Trappers Route canoe trail.

The most significant of these restrictions is the 200-foot restriction on either side of intermittent and ephemeral drainages. It is likely that this restriction would cover a significant portion of the resource area. Many existing oil wells probably are within that 200-foot buffer. Overall, the restriction is discretionary and it does not appear to have a significant impact upon eliminating areas from development of the oil and gas resource.

Surface development is restricted on 5,080 acres of low potential oil and gas estate in canyons and gorges in Converse and Platte counties and on 5,500 acres of intermediate potential along the Goshen Hole Rim in Goshen County. Because the potential for oil and gas is low in and along the canyons and gorges, this restriction would have no significant impact on the availability of oil and gas resources. The prohibition of surface development on the Goshen Hole Rim should have no significant impact on recovery of the intermediate potential oil and gas because the area protected is narrow.

Seasonal restrictions in specific areas are presented in table 4-2. These restrictions have little significance relative to the availability of the oil and gas resource; they merely limit initial development to the season when development would least affect surface resources.

The greatest potential for conflict exists in the Pine Ridge and Pine Mountain areas. These areas contain existing oil and gas fields. The conflict would be adequately mitigated by allowing new development that occurs in the open season to be continued in the closed season. The only significant conflict is in the restriction on the development season, not in the availability of the oil and gas resource.

Surface disturbance is not permitted on slopes of 25% or greater. This encompasses approximately 615,000 acres in the PRRA. Although acreages affecting various potentials for oil and gas have not been calculated, much of the acreage overlies low potential oil and gas resources since the steeper slopes usually occur with foothill and mountain areas. The slope restriction affects or prevents the placement of a well less than 2% of the time. Usually a well can be moved and avoid the slope problem.

The ¼ mile restriction along the Platte River would exclude about 12,800 acres of known gravel deposits from use.

Effects on Land Uses

Soil and watershed decisions would restrain and at times prohibit surface development. This would constrain mineral development, rights-of-way, or land use proposals from other resource programs that involve surface development.

The Bates Hole area is a significant contributor of sediment load in the North Platte River. This area is naturally poor in terms of vegetation and soil productivity. Development and implementation of the watershed management plan in the Bates Hole should help to reduce the amount of erosion, improve soil productivity in some areas, and improve water quality on as much as 265,000 acres through improved livestock distribution, watershed manipulation, and the development of water retention and detention structures.

TABLE 4-2
RESTRICTION ON SURFACE DISTURBANCE AFFECTING OIL AND GAS ACTIVITY

Area	Low Potential for Oil and Gas (acreage)	Moderate Potential for Oil and Gas (acreage)	High Potential for Oil and Gas (acreage)
Special Restrictions: Surface Disturbance Not Permitted December 31 through June 1			
South Fork Powder River	38,400	--	104,320
Coal Mountain-Twin Buttes	26,240	10,240	--
Pine Mountain	--	--	9,600
Rattlesnake Range	--	--	40,320
Halliday Draw	15,360	--	5,760
Badwater-Deadman Butte	48,640	--	48,000
Pine Ridge	--	--	2,760
Bear Peak	--	1,920	--
Seasonal Restrictions: Surface Disturbance Not Permitted November 30 through June 1			
Muddy Mountain	28,800	--	--
Habitat Management Plan Areas: Occupancy and Surface Disturbance Prohibited			
Table Mountain	--	1,240	--
Springer/Bump-Sullivan	--	600	--
Jackson Canyon	13,760	--	--
Bates Creek Reservoir	1,800	--	--
Bishop Waterfowl Area	200	--	--
Squaw Mountain	2,500	--	--

Mechanical vegetation manipulation would create localized short-term impacts on the soil resource. Soil loss through wind and water erosion would increase until vegetation became reestablished. Specific areas and acreage disturbed are not known, so the effects cannot be quantified. Measures to reduce sediment should also reduce erosion.

Silt retention dams, if implemented as a result of watershed studies, would reduce soil loads into the North Platte River. Implementation of the Salt Creek ACEC would increase vegetative cover on sites not now rehabilitated and would reduce soul and chemical loads into streams.

Short-term Uses versus Long-term Productivity

Short-term use of areas where restrictions are applied to protect other resource values would have no significant effect on the long-term production of the oil and gas and mineral resources. The majority of the restrictions apply in areas rated as having low potential for the occurrence of oil and gas.

Withdrawals or activity plans that exclude surface development would forgo development of possible oil and gas resources in the short term. The restrictions would probably enhance the long-term productivity in areas most vulnerable to surface development.

Implementation of soil and watershed management plans, if developed, should result in improved vegetative conditions and vigor. Overall range condition as a result of actions taken under this alternative would be expected to remain static or improve slightly in the long term.

Development of watershed management plans could result in isolated areas of increased vegetation loss from construction of retention or detention structures. In general, however, vegetation conditions should be improved.

Conclusion

There would be no unavoidable adverse effects and no irreversible or irretrievable commitments or resources from the soil, water, and air management program under this alternative.

This alternative would accomplish the primary goal of protecting soil and water resources. It would not promote a comprehensive watershed management effort in most sensitive or fragile watersheds. It would promote intensive watershed management on the Bates Hole area.

Land use decisions that restrict surface development are not additive. They merely identify areas where there is concern about development. In many cases, restrictions overlap with wildlife restrictions, withdrawals, and recreation areas.

Wildlife Management Program

Effects on Cultural Resources

The wildlife program would have a beneficial effect on cultural resources. Occupancy restrictions and prohibition of surface development in HMPs also protect cultural resources that may be located on a particular site.

Effects on Mineral Resources

The wildlife areas defined on table 4-2 are in areas rated as having low and moderate potential for oil and gas occurrence. Because of this and the fact that no development is occurring near these areas, it is anticipated that occupancy restrictions would have no significant impact on the availability of the resource.

Oil and gas acitivity could be delayed for up to 45 days in elk calving areas. Elk calving takes place in areas classed as having low potential for the occurrence of oil and gas; therefore, the impact would be insignificant.

Oil and gas development is restricted or prohibited on a total of 70,000 acres of critical elk winter range. These areas are rated as having low potential for oil and gas. Of the 70,000 acres, 66,600 are subject to a five-month seasonal restriction. Further, 3,400 acres are subject to a year-round development restriction. Since this is also in an areas with low potential, it is expected there would be little interest in oil and gas development of the oil and gas resource at this time.

A six-month occupancy restriction in deer and antelope critical winter ranges affects the timing of oil and gas development but has no impact on availability of the resource. A total of 115,000 acres are rated high potential; 29,000 acres, moderate potential; and 124,000 acres, low potential for oil and gas occurrence.

Allowing no surface development on 15,244 acres in bald eagle winter roosting areas would make oil and gas recovery difficult on some of this area. About 13,124 acres in the Jackson Canyon area rated as having low potential for oil and gas. The probability of drilling occurring in that area is low.

The remaining 2,120 acres is on Pine Mountain. This area is classed as having high potential for the occurrence of oil and gas. Conflict between present oil development in this area and protecting bald eagle roosting areas would be likely to occur.

An additional 1,920 acres classed as having low potential is eliminated from development by a special leasing condition. The remaining critical bald eagle roosting areas are subject to a seasonal restriction. The seasonal restriction would affect the timing of development but not the availability of the oil and gas resource in those areas.

Raptor nests are protected by seasonal buffer zones. On the basis of current uses, species involved, and natural visual and sound barriers, buffer zones may vary. An average of 283 acres per occupied nest may be protected from three to five months. A maximum of 101,300 acres could be subject to seasonal restrictions; however, not all nests are used every year. Many of the nests are located in areas that are subject to other seasonal restrictions. This restriction has no effect on the availability of oil and gas resources and only a minor effect on development.

At present, 103 sage grouse leks have been identified in the PRRA. Occupancy is restricted within a ¼-mile radius from each lek. This excludes 12,875 acres from occupancy year-round. An additional 1¾ miles are protected for two and a half months on a total of 791,300 acres. These areas are available for development during the nest of the year. The 12,875 acres where year-round restriction apply can be drained by wells located on the boundary of the lek.

In addition, the 1¾-mile buffer can be waived if development would not seriously affect the sage grouse. A determination would be made case by case. Much of the area involved in sage grouse strutting grounds and nesting areas is in areas classed as having high potential for the occurrence of oil and gas. To date, there have been no conflicts that could not mitigated.

Effects on Vegetation, Soil, and Water

Occupancy restrictions on HMP areas would have no impact on soil or water resources. Livestock manipulation should improve soil and watershed condition, and development of ponds and fences should improve livestock and wildlife distribution, thereby improving soil and watershed condition.

Effects on Wildlife

Wildlife improvements at Table Mountain and Springer/Bump-Sullivan units have provided year-round water and increased vegetation diversity, cover, structure, and foods. Nesting and year-round populations of geese, ducks, pheasants, and rabbits and seasonal populations of doves have increased dramatically. Some improvement of waterfowl nesting habitat would be accomplished at four other HMP areas (Bates Creek Reservoir, Bishop Waterfowl, Thirty-three Mile Reservoir and Teal Marsh Reservoir). Maintenance of fencing exclosures would increase vegetation cover and height.

Planting of shelterbelt trees at the Table Mountain unit would provide additional winter cover for pheasants and rabbits and a screen for the resting geese. HMP development of five streams (Bates Creek Aquatic, Dry Fork LaPrele Creek, LaBonte Creek, Upper Laramie River, and Bishop Waterfowl) would increase the vegetation composition, structure, and diversity of riparian habitat. However, development of the first four areas would be limited by bedrock and shallow soils.

As explained in the section on the grazing management program, competition between deer and livestock would be monitored at Pine Ridge, the Hartville Uplift, and Bates Hole, and forage would be reserved for elk on critical winter ranges on Muddy Mountain and in the Laramie Foothills. Livestock adjustments could be made to improve browse condition if conflicts were found after four or five years of studies.

Construction of reservoirs and development of wells and springs would increase the amount of nongame and upland game species habitat as well as expanding big game habitat through the provision of water where it did not originally exist. There would be some minor loss of habitat to these small mammals in the immediate vicinity of water developments due to trampling by livestock and big game.

Modification of existing fences on antelope critical winter ranges would provide for increased mobility and survival. Construction of 20 to 30 big game guzzlers on 53,000 acres of public lands would improve summer range on Pine Ridge, Walker Creek Ridge, Hartville Uplift, and Squaw Mountain.

Trout fisheries would be improved on Bates Creek and Upper Laramie River through placement of in-stream structures to diversify riffles and pools and by reduction of livestock grazing to increase vegetative cover, structure, and diversity, to stabilize banks, and to reduce soil in the streams. Monitoring and stocking of fish would be done in cooperation with the WGFD.

Dry Fork LaPrele Creek and LaBonte Creek would not be developed because opportunities to improve the fisheries are limited, because access is not available (3½ miles needed for each) and because only ½ mile and ¼ mile of stream are on public lands.

The planting and fencing of stream bank cover would improve water quality and stability of drainages and on the North and Middle Fork of Buffalo Creek and the North and Middle Fork of Trout Creek. Fencing these areas would enhance improvement of riparian areas on these streams.

Nongame bird habitat would be improved through increases in vegetative cover, structure, and diversity and an increase in food where HMPs were developed. More significant improvements could be accomplished on the HMPs that have wetland and riparian habitats.

Effects on Land Uses

The wildlife management program would constrain some land uses. Most notable are those that involve surface development.

The conversion of 80 miles of woven wire fences to barbed wire fence in winter antelope ranges would, in the opinion of many ranchers, create an unmanageable situation for sheep. Other people seem to think that the standard four-wire fence is adequate for sheep. Impacts of this action seem to vary greatly, depending upon each individual situation.

Fencing of riparian areas on four streams in the South Big Horns could affect livestock use.

Short-term Use versus Long-term Productivity

Wildlife decisions that constrain surface development seasonally or prohibit surface development in some areas would prove beneficial to wildlife resources.

Initiation of HMPs would provide short-term and long-term benefits for vegetation, water, and wildlife.

Development on four areas would be extremely limited and probably would not have any significant public benefit.

Forage reserved for elk on critical winter ranges would promote a beneficial increase in that habitat.

Stream banks would be stabilized and soil erosion would be reduced on six streams.

Fence conversions in winter antelope range might have an impact on livestock operations.

Conclusion

There would be no unavoidable adverse effects and no irreversible or irretrievable commitment of resources from the wildlife management program of this alternative.

This alternative would tend to resolve the wildlife issue. The one drawback is that the proposed HMPs would be initiated in areas in which there would be little improvement in game habitat. The HMPs that would benefit big game through increasing numbers would be contrary to a burgeoning big game population.

Current wildlife restrictions have adequately protected wildlife habitat with a minimum amount of impact to other resource uses. Maintenance of the restriction should continue the same effect.

As with the restrictions in the soil, air, and water program, these figures are not additive with any other figures in a cumulative sense. They merely focus attention on areas of concern regarding surface development. In most cases wildlife restrictions overlap soil and watershed restrictions and recreation area withdrawals.

Special Designations

Effects on Cultural Resources

Special designations would have a positive effect on cultural resources because they are protective. The most significant benefits would occur from protection of the Pterodactyl Track site and of historic resources in the Salt Creek ACEC.

Effects on Mineral Resources

The Pterodactyl Track ACEC would eliminate 1,200 acres from mineral development. There would be no impact in the Salt Creek ACEC.

Surface development would be prohibited in the Red Wall ACEC, the Jackson Canyon ACEC, and the Muddy Mountain EEA. These areas are all rated as having low potential for the occurrence of oil and gas.

Effects on Vegetation, Soil, and Water

Management in areas with special designations would have a positive effect on vegetation, soil, and water because of the protective management that would be implemented.

Effects on Land Uses

Surface development would not be allowed in the Red Wall, ACEC, the Pterodactyl Track ACEC, and the Jackson Canyon ACEC. In the ACECs, increased management emphasis is placed on resource protection. Recreation opportunities are not significantly affected. ORV use is limited to existing roads and trails at the Salt Creek and Pterodactyl Track areas and to designated roads and trails at Red Wall and Jackson Canyon. This would lead to long-term enhancement of the outstanding natural, cultural, historical, and scenic qualities of those areas.

The Casper Sand Dunes area has been leased for oil and gas development. If development should occur, up to 2,000 acres could be disturbed. This estimate is based on spacing of approximately 40 acres per well. There would be little potential for adequate reclamation because of the hazard of wind erosion. This area covers 13,560 acres and is rated as having high potential for the occurrence of oil and gas. The area is leased for livestock grazing. If properly managed, grazing would have little or no effect on soil resources.

The use of vehicles for the development of oil and gas resources and livestock management would be restricted to existing roads and trails to the maximum extent possible; therefore, it should have only a slight impact on the soil resource. Where road construction occurs for oil and gas development, wind erosion is likely to occur as a result of the disturbance.

Recreational ORV travel would be restricted to designated roads and trails, so there should be little effect on the soils. The only impacts on water resources would be from the development of oil and gas. Implementation of the Salt Creek drainage plan is serving to reduce soil erosion through improved reclamation techniques and to improve water quality through monitoring and improved techniques of processing oil.

Beetle-killed trees would continue to increase in the Jackson Canyon ACEC. That is a natural method of eliminating trees; however, continued loss could severely affect the bald eagle roost areas.

In the vicinity of campgrounds, interpretive center, and nature trail in the Muddy Mountain EEA, soil compaction would increase because of concentrated traffic. This effect is expected to be minimal.

Short-term Use versus Long-term Productivity

Development that would compromise the Pterodactyl Track ACEC would have a significant effect on a rare and unique resource. An ACEC designation probably would not adequately protect that area.

Through continued implementation of the management plan for the Salt Creek Hazardous Area of Critical Environmental Concern, erosion should continue to be reduced by improved reclamation techniques, and water quality should continue to improve.

The Jackson Canyon area would continue to lose trees in the bald eagle roost areas through pine beetle infestations.

Unavoidable Adverse Effects

The possible loss of the Pterodactyl Track paleontologic resource via mining claims would, if it should occur, be unavoidable.

A significant reduction or elimination of bald eagle roosts in Jackson Canyon would be unavoidable.

Conclusions

There would be no irreversible or irretrievable commitment of resources from special designations under this alternative.

The special designations proposed under this alternative might not afford sufficient protection of these sites. Prime examples are Jackson Canyon and the Pterodactyl Track area. The remaining areas could be adequately managed under this alternative and preserve the unique values associated with each.

ALTERNATIVE 2: LOW LEVEL MANAGEMENT

Cultural Resource Management Program

Effects on Cultural Resources

Ten cultural sites totaling about 2,400 acres would receive priority under Alternative 2, and program funding would be expended for management on those significant sites. No additional inventories would be initiated to locate cultural resources except in response to land use proposals.

Management for the Bozeman Trail, the Oregon-Mormon Trail, and Spanish Diggings would be beneficial in preserving those sites. Other cultural sites of less significant value would receive management attention if site integrity was threatened by a proposed development. It would be likely that one or more significant cultural sites could be affected in the next ten years. The impact would be likely to result in at least a partial loss of cultural resources.

Effects on Mineral Resources

About 2,400 acres would be excluded from surface development. None of the sites is sufficiently large that oil and gas resources could not be drained from an adjacent location. Oil and gas potential is rated as high in the excluded areas, except in Spanish Diggings, where potential is rated as moderate.

The alternative respresents a positive increase of 175 acres in the amount of land that would be unrestricted to surface development.

Effects on Land Uses

Protection of cultural sites on 2,400 acres would eliminate the use of the surface in those areas from mineral development, rights-of-way, or placement of facilities that would affect site quality.

Short-term Use versus Long-term Productivity

This alternative would increase the probability of compromising the integrity of cultural sites that were not managed.

Unavoidable Adverse Effects

Surface development that would destroy a cultural site would be an unavoidable adverse effect.

Irreversible and Irretrievable Commitment of Resources

The loss of cultural resources would be irretrievable.

Conclusion

This alternative would promote cultural resource management on three sites. It would remain reactive in that inventories would not be initiated until there was a proposal for development. It is more attractive from a cost standpoint than Alternative 1 because inventories would be eliminated. It would not be likely to resolve the issue of continued loss of cultural resources by reacting to land use proposals.

Energy and Mineral Management Program

Effects on Mineral Resources

Sand and gravel development would be permitted on 12,800 acres within ¼ mile of the North Platte River. This would have a positive benefit in supplying a new source of sand and gravel near Casper. It would alleviate the present situation where a decreasing supply is increasing haul lengths and costs. This new source would be available for use in 1985 and thereafter as needed.

Effects on Vegetation, Soils, and Water

Vegetation, including some riparian land on the site of a sand and gravel operation, would be lost. The loss probably would be long term. Alteration of soil characteristics and physical properties would occur. After rehabilitation, productivity would be decreased. Soil erosion probably would occur throughout the mining period. This could result in increased silt loads in the North Platte River between Alcova Reservoir and the Nebraska state line. Silt loads in this segment of the river is currently a problem because heavy silt loads of Bates Hole streams empty into the river. Sediment problems for city water would increase, the rate of sedimentation in Glendo Reservoir also could increase.

Effects on Visual Resources

Mining for sand and gravel would significantly affect the visual quality of the North Platte River between Alcova and Casper. Much of this length of the river is easily visible from the highway.

Effects on Air Quality

Increased dust would significantly affect air quality adjacent to the mine site. Most of this impact would occur near Casper since that is where the demand for sand and gravel is greatest.

Noise Impacts

Noise levels would increase above the nuisance level at mine sites. Homes along the river near a mine site could be adversely affected.

Effects on Wildlife

Mining of sand and gravel within ¼ mile of the North Platte River would destroy waterfowl nests and nest vegetation on sites disturbed. It also would disrupt nesting on adjacent lands to a distance of several hundred yards. Habitat for waterfowl and bald eagles would be lost through the development of sand and gravel sites along the North Platte River.

Any sharp increase in sedimentation in the river could affect the fishery resource. The likelihood of that occuring is low.

Effects on Land Uses

The most significant impact on land use from the minerals program would be the impact to recreation users along the river. The Alcova-to-Casper section is especially vulnerable because it is heavily used by fishermen, boaters, canoers, and sightseers.

A sand and gravel operation along this section would significantly decrease visual quality. At least one sand and gravel operation could reasonably be expected to occur on public minerals near each town along the river in the next ten years.

A small amount of forage would be lost and would not be available for livestock or wildlife use.

A sand and gravel operation could significantly affect private landowners. Much of the federal mineral estate along the river is under private surface. This presents several problems: acquiring access, damage payments, or a legal proceeding to acquire access to sand and gravel where the private landowners may not want a mine. Thus, significant amounts of the material might not be available simply because the BLM decided to make the resource available.

Socioeconomic Effects

The availability of a new easily accessed source of sand and gravel adjacent to towns along the river would be a beneficial economic impact in that haul distances, and therefore costs, would be reduced. It would be especially beneficial in terms of free use to governmental entities.

On the other hand, sand and gravel operation could reduce the property value of land along the river. This especially applies to land in the mine site and adjacent to it.

Present information, derived from public meetings at the outset of planning, suggests a shortage of material near the Casper area. Resource information suggests that there are sources of sand and gravel outside the ¼-mile buffer that could be utilized if access and landowner approval were granted. Those appear to be more significant problems than the nonavailability of sand and gravel within the ¼-mile buffer.

Short-term Use versus Long-term Productivity

A new, easily accessed source of sand and gravel would alleviate the need for sand and gravel in the Casper area in the short term and the long term.

There would probably be a reduction in land values at the mine site and land adjacent to the mine.

Riparian vegetation along the river could be lost in the short term. Soil productivity would be decreased in the long term.

Short-term use for sand and gravel extraction could have long-term impacts on wildlife, especially waterfowl. There would be a slight increase in sedimentation in the North Platte River.

Air quality would be poorer at and adjacent to the mine locations. Noise could affect homes in the vicinity of sand and gravel operations. Visual quality would be reduced along the river, and recreation use would be affected.

Unavoidable Adverse Effects

Losses of soil productivity, loss of waterfowl habitat, poorer air quality, an increase in noise, and a decrease in visual quality would be unavoidable adverse impacts.

Irreversible and Irretrievable Commitment of Resources

The sand and gravel extracted and used would be irretrievable.

Conclusion

This alternative would resolve the issue of the need for available sand and gravel. It also harbors significant impacts on recreation, visual resources, and air quality. Use would likely occur near Casper and other towns.

The sand and gravel available along the river would provide a long-term source. Recreation use along the river, especially from Alcova to Casper, could be significantly affected.

Fire Management Program

Effects on Vegetation, Soil, and Water

Burn procedures would be used to enhance forest management. There would be a net positive benefit in forestland vegetation and in fire hazard reduction. Soil would be prone to erosion in the short term, and short-term pollution of nearby water sources could occur.

Effects on Land Uses

Defining 85,000 acres as a priority suppression zone would alleviate some of the stress placed on fire suppression resources during high fire years. About 95% of the resource area would be under full suppression.

Conclusion

There would be no unavoidable adverse effects and no irreversible or irretrievable commitment of resources from the fire management program under this alternative.

This alternative is superior to Alternative 1 in that it would relieve the problems of practicing 100% full suppression in the PRRA. It would allow some flexibility in the use of fire suppression resources.

Forest Management Program

Effects on Vegetation, Soil, and Water

Intensive timber management would take place on fewer acres under this alternative (3,000 acres). The annual allowable cut would decrease from 525 mbf to 120 mbf.

The mountain pine beetle would be allowed to take its natural course with a resulting effect of extensive overkill to the point that it might be years before stands were restocked naturally. If artificial regeneration were intitiated, the cost might be prohibitive. Most timber from beetle-killed trees would not be used. Fire potential would increase greatly.

Effects on soils would be reduced from 105 acres per year to approximately 29 acres per year, with a total of 3,000 acres subject to selective harvest.

There would be less erosion annually because fewer roads and skidding and yarding would be needed. Because there would be less traffic in any given area, the degree of erosion should be less, so that disturbed areas would heal faster.

Effects on Wildlife

Stagnant forest stands would not be managed, and forage would be reduced for wildlife. The reduction would not be significant. There would be a decrease in variable cover types in forested areas.

Only 1/3 as much of the stagnated stands in raptor and nongame bird habitat would be opened as in Alternative 1 to clear cuts and thinnings.

Effects on Land Uses

The limitation of 120 mbf harvested annually in the forest management program would not respond to public demand for posts, poles, and fuelwood. This program would result in a very slow, drawn-out endeavor to bring stands under management and to maximize forest site productivity. Forestry needs such as access would have to be justified on a long-range basis. This could be detrimental to the cost effective needs of the program.

Trespass would increase as more people sought to fill their fuelwood needs. This might cause unwanted destruction of forest stands through a disregard for forest management principles.

Socioeconomic Effects

Little, if any, economic benefits would be gained through the use of forest products. There could be a significant economic loss through the natural loss of forest resources.

Short-term Use versus Long-term Productivity

A decrease in beetle control would result in a significant loss of timber resources. There also would be a loss of whatever economic benefit would be gained through a more intensive forestry program.

Unavoidable Adverse Effects

The loss of forest resources from pine beetles and natural mortality would be unavoidable under this alternative.

Irreversible and Irretrievable Commitment of Resources

Trees lost through pine beetle depredation or natural mortality would be irreversibly lost. Nonuse of those products would be an irretrievable loss of the resource in terms of consumptive use. Under this alternative, about 1.2 million board feet would be harvested in ten years.

Conclusion

This alternative presents a very low level management effort. It would not effectively combat the mountain pine beetle, nor would it effectively promote management on other forestlands except those on Muddy Mountain.

Grazing Management Program

Effects on Vegetation, Soil, and Water

Soil compaction and erosion would increase on 25 acres around water development and along fences. No additional forage would be produced by brush treatments.

Development of new range improvement projects would be drastically cut. Livestock distribution patterns would be improved on only 13,000 acres. New range improvement projects would provide an increase of 264 AUMs for livestock.

Benefits from water developments would be reduced from 5,400 AUMs in Alternative 1 to 540 AUMs in Alternative 2. Loss of vegetation by water storage in new reservoirs would be less than 15 acres.

About 100 acres of riparian zones would be protected by fencing. Range conditions in these areas would be improved from fair to good, and the vegetation would be much more healthy and vigorous.

A significant reduction in weed control efforts could increase noxious weeds on the public lands. This would result in a decrease of forage availability and palatability.

A lack of pest control on the public land could result in significant forage losses in certain areas. Conversely, there would be a positive effect in that water contamination from the use of pesticides and insecticides would not occur.

Effects on Wildlife

Livestock and wildlife distribution should be improved over 13,000 acres through development of five reservoirs, and 15 springs, and 24.25 miles of fence construction.

Reallocation of 1,120 AUMs of livestock forage to wildlife would take place in two areas of critical elk winter range. Management emphasis on livestock-wildlife competition problem areas would result in reduced livestock allocation where studies showed big game needs were not being met.

Under this low management alternative, attention would be focused on the Aetna and Willow Creek pastures on the South Big Horns slope above Buffalo Creek. Here livestock use may conflict with critical winter range for deer and elk. If studies over four or five years verified that the elk or deer herds' needs were not being met, livestock forage allocations would be reduced to the benefit of wildlife. Effects on the environment would be the same as under Alternative 1. The difference is that effects would be caused by deer and elk to a greater degree and by sheep and cattle to a lesser degree.

Not controlling prairie dogs would have beneficial effect on wildlife. Prairie dog populations would provide an additional food source for a variety of predators. The lack of prairie dog control would also result in significant reduction in the quality of wildlife habitat for big game in some areas.

Effects on Land Uses

Use of the stock driveways for trailing purposes only would result in a long-term increase in range condition within the driveways. Not using the driveways for additional grazing after the trailing season would result in the loss of supplemental forage to some livestock operations.

Socioeconomic Effects

Livestock use on 403 leases would be maintained at 190,179 AUMs. Two grazing allotments would decrease from 9,781 AUMs to 8,761 AUMs. There would be a net loss of 1,020 AUMs on these allotments. Livestock use would increase in two allotments from 3,744 AUMs to 3,908 AUMs, for a net gain of 164 AUMs.

The benefit-cost of implementing this alternative would be about 2.88 to 1.

Short-term Use versus Long-term Productivity

Reduction of livestock numbers where wildlife-livestock conflicts may exist would not affect long term productivity of the range resource in that area.

Soil compaction and erosion would increase on 25 acres around water and fence developments.

Lack of pest control would result in the loss of forage and deterioration of the range resource in some areas in the long term.

Range condition would improve from fair to good in 100 acres of riparian areas in the long term. Productivity would be increased in these areas.

Unavoidable Adverse Effects

The reduction in forage and range condition resulting from the lack of pest control would be unavoidable in some areas.

Conclusion

There would be no irreversible or irretrievable commitment of resources under the grazing management program of this alternative.

This alternative is directed at benefiting wildlife and watershed resources. It would not promote intensive range improvements that would benefit livestock distribution and increase forage production. Range condition and use would remain static over most of the resource area.

Grazing use would remain static with the exception of allocation of 1,120 AUMs of forage to elk and deer in the South Big Horns.

Lack of pest control could result in the loss of forage and a decrease in range condition in some areas.

Lands Program

Effects on Cultural Resources

No withdrawal on the Pterodactyl Track area could compromise the integrity of these sites. If development of locatable minerals occurred on the Pterodactyl Track site, there would be a loss of a significant and unique resource. The trail segments would not be significantly affected by the lack of a withdrawal.

Movement of the Oregon Trail corridor to a new location would have a significant benefit in the preservation of the trail.

Effects on Mineral Resources

No lands would be withdrawn from the operation of the 1872 mining law. This alternative would release 38,800 acres to full operation of the mining laws.

The potential use of 520 acres for R&PP could exclude mineral development.

Areas restricted to right-of-way use would be eliminated. This would have a beneficial effect on mineral development.

Providing no further access to the public land would have no significant impact on exploration for and development of mineral resources. Costs involved for access to the minerals industry would remain unchanged.

Effects on Vegetation, Soil, and Water

Impacts probably would increase on these components as a result of opening ten restricted areas to various land use authorizations. The impact would probably occur from rights-of-way.

Effects on Wildlife

R&PP disposals on Casper Mountain would eliminate 400 acres of year-round elk range because visitation would increase. Acquisition of land through exchange in the South Big Horn Slope elk critical winter range would not occur.

Sales of public lands where sage grouse nest might result in loss of 1,360 acres. Acquisition of 20 acres to the Table Mountain Unit would not be pursued, and the benefit that could be derived from making such an exchange would not occur.

Effects on Land Uses

Less land would be reserved for disposal only under the R&PP Act than in Alternative 1, and the time limitation would not apply. Some public purpose opportunities would be precluded if the lands were disposed of by means other than R&PP.

Exchanges would be pursued in only two areas. These are key management areas, and exchanges, if completed, should result in great improvement in federal management. Completion of those exchanges would be highly probable. These areas contain resource values and management potential sufficient to justify the costs of exchange.

Disposal by other methods would increase to 79,500 acres, or 6% of the total BLM acreage. This is not expected to be significant and may be less significant than Alternative 1 since the lands are spread over the entire resource area.

Lack of protection provided by withdrawals could compromise recreation values on Muddy Mountain, the Red Wall area, and the Platte River.

Land use authorizations probably would increase in areas that are now restricted. These are areas that contain specified environmental factors that make them easily susceptible to impacts from surface development.

Not providing further access to the public lands would increase the probability of and the frequency of confrontations between the recreating public and private landowners.

The elimination of three corridors and moving the Oregon Trail corridor would be beneficial in the long term. Designation of five corridors should meet the projected corridor needs for major rights-of-way in the PRRA. Allowing rights-of-way in areas now closed to that type of development would enhance minerals development and other facilities associated with various land uses.

Socioeconomic Effects

About 79,000 acres would be available for disposal. Impacts would be the same as those described for Alternative 1, but greater in degree because of the larger amount of land to be disposed of.

Short-term Use versus Long-term Productivity

Not providing for withdrawals would benefit mineral availability and other land uses. The lack of withdrawals could be detrimental to the recreation, cultural, and wildlife programs. Resources important to these programs could be affected in some manner within the next ten years.

Because recreation would increase on Casper Mountain, 400 acres of elk range would be eliminated.

Unadvoidable Adverse Effects

Not providing additional access would result in unavoidable increased confrontation between the recreating public and private landowners.

Irreversible and Irretrievable Commitment of Resources

A change of ownership of public land would be an irreversible and irretrievable commitment of the land resources.

Conclusion

Alternative 2 would slightly increase emphasis on R&PP use. The use of land for public purposes would provide additional benefits for the public.

This alternative would promote minimum restrictions on the public lands by not providing withdrawals and by opening all areas to rights-of-way as needed. This could result in a long-term impact upon cultural, wildlife, and recreation values in specific areas.

Access to more of the public lands would not be pursued. Confrontations between the recreating public and private landowner would be likely to increase.

The issue of disposal could be satisfied. The withdrawal issue would be satisfied, but no withdrawals would affect other resource programs. The need for increased access to the public land would not be satisfied. The corridor issue could be resolved by selection of this alternative.

Recreation Management Program

Effects on Vegetation, Soil, and Water

Impacts to vegetation, soil, and water would increase through the lack of management in some areas where recreation use is intensive.

The recreation management program under this alternative would restrict forest management in the natural area on Muddy Mountain. Other areas would not be affected.

Effects on Land Use

Intensive recreation management would be limited to two special management areas, Muddy Mountain and Goldeneye Reservoir, for which RAMPs have been completed. This would affect 12,733 acres, or less than 1% of the public lands in the PRRA.

There would be no major facility developments to enhance recreation opportunities in the PRRA. There would be no RAMP development for 12 potential areas (35,480 acres). ORV designations for Natrona County would remain unchanged, and ORV use would be limited to existing roads and trails in the remaining PRRA (252,913 acres).

Plans for 240 acres of land for environmental education would not be developed, although the land would be available for use through recreation use permits on an annual basis.

Because of the reduced emphasis on management and an increased emphasis on monitoring, use, and enforcement, there would be an increase in resource degradation. Experience has shown that without management some users tend to abuse the public lands, travel off designated or existing roads, vandalize public and private property, and litter recreation areas. The quality of the recreation experience and the number of sites would be reduced. Health and safety considerations of visitors would continue to be emphasized, but the alternative to improved management would be the closure of areas that were in any way hazardous.

Socioeconomic Effects

Negative social impacts would increase because there would be less recreation user control and enforcement than under Alternative 1. Without adequate maintenance, the present investment in facilities and site improvements would gradually be lost in future years. The eventual costs of trying to restore the recreation quality would be greater.

Short-term Use versus Long-term Productivity

Short-term use of the land for recreation would continue with minimum management and maintenance, but the long-term productivity would be reduced through resource degradation, user conflicts, and trespass problems. Mitigating measures that could be taken would be increased monitoring, use supervision, and enforcement. Increased dependence upon seasonal employees, signs, information brochures, and public contact would be required to inform public land users of their increased responsibility to use public land properly. Overused areas with significant resource degradation would be closed.

Unavoidable Adverse Effects

Resource losses would increase unavoidably for soils, vegetation, cultural resources, and scenic quality.

Conclusion

There would be no irreversible or irretrievable commitments of resources under this alternative.

The proposed action would provide quality recreation on two special management areas that receive high visitor use. Recreation opportunities would continue at the present levels over the next ten years. Recreation quality and opportunity for the remaining public lands would decrease through lack of management. This probably would have a carryover detrimental effect on other resources such as soil, water, vegetation, wildlife, and cultural resources.

Soil, Water, and Air Management Program

Effects on Vegetation, Soil, and Water

No action would be taken to improve soil conditions and water quality in the Bates Hole or other sensititve drainages or in designated fragile areas. This would result in a continuation of the exising level of erosion and sedimentation. No improvements to water quality would be accomplished in Bates Hole or other sensitive drainages or fragile areas.

Watershed conditions would improve on about 13,000 acres from implementation of range improvements. About 100 acres of riparian zones would be improved. This would result in less water sedimentation and increased vegetation.

Short-term Use versus Long-term Productivity

The lack of action to improve the watershed condition in Bates Hole would result in continued erosion and a downward trend in the quality of that watershed. Watershed condition under this alternative would be improved on only 13,000 acres, with a degradation of 25 acres for water developments.

Unavoidable Adverse Effects

Continued erosion and deterioration in the Bates Hole watershed would be unavoidable. Other unavoidable adverse impacts from other land uses would be the same as those identified under Alternative 1, but the magnitude would vary depending on the action taken.

Irreversible and Irretrievable Commitment of Resources

Commitments of resources would be the same as those identified for the soils, water, and air program of Alternative 1, but the magnitude would vary according to the action taken.

Conclusion

This alternative would not propose an active role in managing fragile and sensitive watersheds. Management would rely on mitigating impacts from various land use proposals. The Bates Hole watershed would continue to be a problem in terms of erosion and contributing to the sediment load in Bates Creek and the Platte River. That area is naturally poor in productivity. However, an aggressive management program could decrease erosion and enhance soil productivity and vegetative cover in some areas within that watershed.

Wildlife Management Program

Effects on Vegetation, Soil, and Water

HMPs would not be developed for streams and associated riparian areas. However, fencing of livestock-damaged riparian areas would be beneficial toward increasing vegetation in those areas.

The improvement of trout fisheries and water quality described for Alternative 1 would not occur under Alternative 2. Public pressure on existing streams would increase, causing deterioration of the riparian habitat. No improvements in water quality would be accomplished in Bates Creek or Salt Creek.

Project development would cause identical impacts to those described under Alternative 1. Improvements of vegetative cover, structure and diversity, and increases of foods would not occur at HMP areas.

Effects on Wildlife

Project development would improve cover for deer on riparian areas as exclosure fences increased vegetation cover and height. Water projects, including the big game guzzlers at Pine

Ridge, Walker Creek Ridge, Hartville Uplift, and Squaw Mountain, would expand antelope and deer summer ranges by providing water where it is not now available.

Project development would provide additional water to game birds, sage grouse and chukars, as water developments under this alternative would be more wildlife-oriented than livestock-oriented.

The impacts from poisoning prairie dogs, described in Alternative 1, would not occur. Therefore, there would be no reductions of potential habitat for ferrets under this alternative.

A net long-term benefit would be derived from allocating 1,020 AUMs of forage to wildlife in elk winter range on two grazing allotments.

Development of the HMP in Jackson Canyon would be beneficial in preserving bald eagle habitat in that area.

Effects on Land Uses

Transferring management of the Table Mountain, Springer/Bump-Sullvian, and Rawhide parcels to WGFD would result in decreased management because that state agency is financially unable to assume the expense. Thus, road, dike, and fence maintenance would decrease. Recreation use would further impair road conditions. Improvements such as shelterbelt tree planting, grass cover interseeding, and island construction probably would not be implemented.

Vegetation cover and structure would improve because WGFD would manage livestock grazing with reduced allocations to favor nesting habitat. There would be no improvement of nesting habitat at Bates Creek Reservoir, Bishop Waterfowl Area, Thirty-three Mile Reservoir, or Teal Marsh Reservoir.

Short-term Use versus Long-term Productivity

The fact that HMPs would not be developed would mean that there would be no short-term or long-term benefit for wildlife in areas for which HMPs would be developed under Alternative 1.

Conclusion

There would be no unavoidable adverse effects and no irreversible and irretrievable commitment of resources under the wildlife management program of Alternative 2.

Management under this alternative would rely mainly on improvement in wildlife habitat that would be derived through the grazing program. It would not promote an aggressive wildlife management program in areas where wildlife habitat could be enhanced. It is attractive from a cost viewpoint.

The alternative would not resolve the issue of more intensive management to promote waterfowl and small game. The net increase would be in one area, Jackson Canyon, and management there would not be directed at promoting waterfowl or small game. Thus, this alternative would not solve the issue.

Special Designations

Effects on Cultural Resources

The ACEC designation would be eliminated at the Pterodactyl Track site. Protection would be afforded by application of land use decisions in appendix B as necessary. The present land use decision applying to this area would not allow surface development inside the 1,200-acre site. This would offer sufficient protection from all land uses except locatable minerals. Mining claims that could be filed and subsequently developed inside that area would have a high probability of compromising that site.

Effects on Mineral Resources

Locatable mineral development could occur in the Red Wall area (8,600 acres) and the Pterodactyl Track (1,200 acres). Other surface developments would be subject to land use decisions in appendix B that exclude surface development. There would be no change in the ease with which exploration and development of oil and gas could be carried out.

The effect on mineral development would remain unchanged in the remaining special designation areas.

Short-term Use versus Long-term Productivity

There would be a possible impact from locatable mineral development that could compromise resource values in the Red Wall and the Alcova Pterodactyl site.

Unavoidable Adverse Effects

Any mineral development in the Pterodactyl Track site would result in an unavoidable adverse impact to the paleontological values.

Irreversible and Irretrievable Commitment of Resources

The loss of cultural values at the Alcova site would be irreversible.

Conclusion

The alternative would remove the ACEC designation in the Red Wall and the Pterodactyl Track. There would be no significant change in the susceptibility of these areas and the other specially designated areas to be affected by locatable mineral development. Significant resource values could be compromised at the Pterodactyl Track site, Muddy Mountain, Jackson Canyon, and Red Wall.

An ACEC designation simply identifies an area that possesses certain unique values or hazards. In most cases, the designation does not provide the protection desired.

ALTERNATIVE 3: MODERATE LEVEL MANAGEMENT

Cultural Resource Management Program

Effects on Cultural Resources

The possible transfer to the National Park Service of three segments of the Oregon Trail—Fort Laramie A and B and Old Bedlam—would, if implemented, result in a net long-term benefit. The trail segments are difficult for the BLM to protect because they are about 130 miles from the PRRA office. They could be a valuable addition to the Fort Laramie National Monument, and management and protection probably would be improved if they were transferred.

Management emphasis would be extended to include the Notches Dome Archeologic District. This would be very beneficial in protecting cultural sites in that area. At least part of the area is within a producing oil and gas field, so that the potential for loss of cultural sites is high.

Fifteen sites would be protected—a total of about 4,000 acres. This would increase cultural site protection on 1,428 acres above Alternative 1 and 1,603 acres above Alternative 2.

Effects on Minerals

It is probable that restrictions to protect cultural resources in the Notches Dome Archeologic District would affect development of the oil and gas resource. The major concern would be the effect on oil and gas operations within the producing field.

Effects on Land Uses

Land uses that involve surface development would be restricted or prohibited on about 4,000 acres. A major concern would be the impact on oil and gas production in the Notches Dome Archeologic District.

Short-term Use versus Long-term Productivity

Transfer of the Fort Laramie segments of the Oregon Trail to the National Park Service, if achieved, would ensure protection of those sites in the long term.

Increased surface development restrictions would affect oil and gas development in the Notches Dome Archeologic District.

Unavoidable Adverse Effects

The probable loss of cultural values in the Notches Dome Archeologic District would be unavoidable

Irreversible and Irretrievable Commitment of Resources

The loss of cultural values would be irreversible.

Conclusion

This alternative promotes a much more aggressive management program than Alternative 2. Protection of cultural values in the Notches Dome area would be beneficial in terms of resource protection. It is one area that should receive management attention beyond a reaction to land use proposals. Any restrictions in that area would have to be tempered because of present oil and gas production.

This alternative would be superior to Alternatives 1 and 2 in resolving the issue of cultural resource protection.

Energy and Minerals Management Program

Effects on Mineral Resources

Extraction of sand and gravel would be allowed within the ¼-mile buffer along the North Platte River between Casper and the Nebraska state line. This would make available about 9,400 acres of land containing sand and gravel. The indicated shortage near the Casper area would be alleviated by this action in the short term.

About 3,400 acres of known sand and gravel deposits would not be available between Alcova and Casper.

Effects on Vegetation, Soils, and Water

The effects of mining sand and gravel have previously been discussed for Alternatives 1 and 2. The significant difference between those alternatives and this one is that under Alternative 3 any increase in silt load caused by mining would be confined to the river area from Casper eastward.

Reductions in air quality would be confined to the river area east of Casper. There would be no impact from a mining operation near Casper because the prevailing wind is southwesterly. Nearby dwellings downwind from the sand and gravel operation would be significantly affected during operations.

Effects on Land Uses

The impact on recreation use described for Alternative 1 between Alcova and Casper would not occur under this alternative. The Alcova to Casper area is the most significant part of the river for recreation use.

We would reasonably expect at least one sand and gravel operation to occur near each town along the river from Casper eastward.

Short-term Use versus Long-term Productivity

Sources of gravel available east of Casper would alleviate the shortage of sand and gravel in the Casper area in the short term.

Recreation use on the river east of Casper would be affected by sand and gravel operations. This probably would be confined to the general vicinity of the mining operation.

Unavoidable Adverse Effects

The unavoidable adverse effects of energy and minerals management under Alternative 3 would be similar to those discussed under Alternatives 1 and 2.

Irreversible and Irretrievable Commitment of Resources

The irreversible and irretrievable effects of energy and minerals management under Alternative 3 would be similar to those discussed under Alternatives 1 and 2.

Conclusion

The availability of sand and gravel from Casper eastward along the river would have a beneficial effect in making the material available to local governmental entities. It might also alleviate the shortage of this material near Casper in the short term.

This alternative, like Alternative 2, would cause significant site-specific impacts on various resources at the mine sites. It would address the issue of more access to sand and gravel along the North Platte River.

Fire Management Program

Effects on Vegetation, Soil, and Water

Brush control would be implemented on about 20,000 acres. Assuming all control was done by fire prescription, which is likely, about 4,000 acres would be treated in the first ten years. This represents a 100% increase in the amount of brush control from Alternative 1.

The impacts discussed in Alternative 1 for these components would remain the same for site-specific projects, but the cumulative impacts would be greater because of the increased acreage.

We would expect significant benefits in increased forage. An increase in water yield of up to 15% would occur on some or all of these burns.

Effects on Land Uses

Full fire suppression would be carried out in only 32% of the resource area. This is a decrease of 68% from Alternative 1 and 26% from Alternative

2. Priority suppression would be maintained on 6% of the resource area. Limited suppression would be maintained on 62% of the resource area. This could increase the possibility of wildfire burning more acreage in the limited suppression areas, especially if wildfire starts should be above average in a given year.

Brush control on about 4,000 acres would have a net benefit for livestock grazing through increased forage production.

Establishment of fire suppression priorities or zones would highlight resource values and place protection emphasis on areas where wildfire has the greatest potential for adverse impact. Limited suppression on low resource value areas would keep suppression costs more in line with those values.

Short-term Use versus Long-term Productivity

Prescribed burning on about 4,000 acres would increase forage in the short term.

There could be a greater risk under this alternative that wildfires would be larger in the limited suppression areas than under Alternatives 1 and 2.

Fire management under this alternative would be more cost effective than under Alternatives 1 and 2 because suppression would be concentrated in areas with high resource values.

Unavoidable Adverse Effects

Short-term increases in air pollution, noise, loss of vegetation, and erosion would be unavoidable.

Conclusion

There would be no irreversible or irretrievable commitment of resources under the fire management program of Alternative 3.

This alternative provides an excellent mix of priority full suppression, full suppression, and limited suppression zones. It would address the issues through establishment of fire suppression zones to protect resources according to value and through development of prescriptions to enhance forage production or promote management of forest resources.

Forest Management Program

Effects on Vegetation, Soil, and Water

Under Alternative 3, about 600 mbf of forest products would be harvested annually on about 8,000 acres of productive forestland. This is about twice the acreage of harvest covered under Alternative 1. The harvest would amount to 75 mbf more than in Alternative 1 and 480 mbf more than in Alternative 2.

Forest management under Alternative 3 would control the mountain pine beetle on Muddy Mountain, including the natural area. Beetle control efforts also would be continued in Jackson Canyon.

The harvest program would affect 120 acres per year for four years, then 80 acres per year for the next eight to ten years.

Effects from forest management on vegetation, soil, and water, would be similar to those described for Alternative 1, but greater in proportion to the increased cut.

The more intensive forest management under this alternative would decrease timber trespass. Mountain pine beetle suppression efforts should control the beetle and increase the forest data base.

Effects on Wildlife

The forest management program of this alternative would alter habitat for big game, upland game, nongame species, and raptors, especially bald eagles in Jackson Canyon. There would be a short-term decrease in the diversity of cover types and foods, but in the long term the diversity would increase.

Socioeconomic Effects

There would be an economic benefit from the availability of more forest products. Likewise, there would be an economic loss from timber products that could not be utilized.

Effects on Land Uses

Access needs into cutting areas would intensify, but the effect would not be significant.

Increased emphasis on cutting in the Muddy Mountain EEA and forest demonstration area could affect recreation use in that area.

Short-term Use versus Long-term Productivity

A total of 600 mbf of forest products would be consumed annually during the life of this plan. The harvesting of 600 mbf per year could result in the disturbance of 125 acres annually for 12 to 15

This alternative would provide intensive control on mountain pine beetles.

Irreversible and Irretrievable Commitment of Resources

About six million board feet of timber would be cut in ten years. About 5.7 million board feet would be utilized and about 300 mbf would be lost through nonutilization. These commitments would be irretrievable.

Conclusion

This alternative for forest management would be superior to Alternatives 1 and 2. It would promote intensive forest management on 8,000 acres, and it is directed at combating the mountain pine beetle. It also seeks to build a forest data base wherein new timber products in other areas would be available after ten years. This alternative would resolve the issue.

Grazing Management Program

Effects on Vegetation, Soil, and Water

As a result of range improvement project development under this alternative, livestock distribution patterns would be improved on 130,000 acres. A minimum of 100 acres in riparian areas would be fenced, but these areas would be rested to only temporarily improve range conditions for livestock grazing.

Sagebrush control by burning or chemical application would be practiced on a minimum of 19,975 acres. About 4,000 acres would be completed in ten years. Weed and grasshopper control would be carried out on approximately 20,000 acres. Impacts would be the same as those discussed under Alternative 1.

Watershed condition would be improved on 562,000 acres through livestock manipulations outlined for 13 AMPs. About 130,000 acres of watershed would be improved by livestock distribution through the addition of 199 water developments and construction of 95 miles of fence. About 350 acres of vegetation would be adversely affected through development of new water sources.

Range condition and forage production would be maintained on 737,377 acres and improved on 682,000 acres. An increase of 5,420 AUMs is projected for the short term and a total gain of 13,927 AUMs for the long term.

Effects on Wildlife

Range management would emphasize studies and monitoring of potential conflicts over forage between livestock and big game. Studies would be directed at the Aetna and Willow Creek pastures (deer and elk); the Garrett, Steinle, and Mills pastures (deer); and the Garrett pasture (antelope). Forage adjustments, if needed, would be balanced between livestock and wildlife. Thus, wintering populations of big game might be reduced in some or all of these areas.

The increase in fence construction would increase the restrictions on big game movement. Antelope movement through migration routes and critical winter ranges could be hindered. Severe winters in combination with these fences could cause heavy losses to some herds. Water projects developed in critical winter ranges could further accentuate competition between livestock and big game, causing decreased foods and vegetative cover.

Project development of wells and springs would increase sage grouse and dove summer habitats but cause decreased food and cover where livestock would shift grazing to areas of the new water supplies.

Effects on Land Uses

The effect of supplemental grazing use within the stock driveway would be essentially the same as that described for Alternative 1.

Socioeconomic Effects

There would be a net long-term gain of 13,927 AUMs and a net increase in permitted livestock AUMs from 203,704 to 217,631.

Short-term Use versus Long-term Productivity

About 350 acres of vegetation would be affected in the short term by development of water sources.

There would be a net long-term increase of 13,927 AUMs. In the short term, there would be an increase of 5,420 AUMs.

Conclusion

Under the grazing management program of Alternative 3, there would be no unavoidable adverse effects and no irreversible or irretrievable commitment of resources.

Livestock forage production would increase, and wildlife and watershed conditions would be improved on 48 leases. This alternative would provide an aggressive range management program. It would be superior to Alternatives 1 and 2 in terms of forage production. Thirteen AMPs would be developed covering about 562,000 acres.

Lands Program

Effects on Cultural Resources

Increased protection would be afforded the Pterodactyl Track ACEC through withdrawal from mineral locations under Alternative 3.

Effects on Minerals

Locatable mineral exploration and develoment would be excluded on 400 acres. The ACEC designation would be removed from 1,200 acres; thus a net gain of 800 acres would be available for locatable mineral development.

Three additional areas would be withdrawn from operation of the 1872 mining law; one would be retained. The total amount of land proposed for withdrawal under this alternative would be 10,500 acres.

Development of rights-of-way would be restricted on eight areas. Restrictions would be eased in two areas, the South Big Horns and Pine Ridge. Development of oil and gas leases would be allowed in those areas.

Effects on Vegetation, Soil, and Water

The effects on vegetation, soil, and water would be the same as those described for Alternative 1. About 80 acres of vegetation and soil productivity would be lost as a result of road construction. The effect would be long term.

The easing of restrictions in the Pine Ridge and South Big Horns areas would increase impacts in those areas. The potential for adverse effects is great because of the rough topography in those areas.

Effects on Wildlife

Disposal of lands in deer or antelope critical winter ranges could result in loss of food and cover and disruption of wintering animals if the lands should be developed. Agriculture development of these lands would replace sagebrush, the most important food for wintering deer and antelope, with summer crops that would not provide winter food. An increased burden could be placed on the WGFD for damages to crops caused by deer and antelope.

Sales of public lands could result in the loss of 3,800 acres of sage grouse nesting habitat if the land use changed. Acquisition of 20 acres to the Table Mountain unit would have the same effects as those described for Alternative 1. Sales of isolated tracts would have the same kinds of effects on furbearers, nongame mammals, reptiles, and amphibians as those described for Alternative 1.

Effects on Land Uses

A total of 102,700 acres would be identified for disposal under this alternative. Of this total, 23,200 acres within RMUs 1 through 13 and would be used for exchanges only.

This is an aggressive land disposal alternative. The effects would essentially be the same as those described for Alternative 1, but the impacts would be magnified because of the larger amount of land proposed for disposal.

Three areas would be considered for exchange. The likelihood of completing those three exchanges would be high. Net benefit would accrue to the public if isolated tracts were exchanged for other tracts adjacent to present public land.

Land use authorizations would remain essentially unchanged; thus, the effects would be the same as those described in Alternative 2.

Seventeen easements would allow more access and increase use of the public lands. This could bring about a significant gain in recreation use, especially during hunting season.

Socioeconomic Effects

The socioeconomic effects under this alternative would be the same as those described for the lands program under Alternative 1, but the effects would be itensified.

Short-term Use versus Long-term Productivity

Completion of three exchanges, if accomplished, would produce a net public benefit in terms of enhancing public land management in those areas. Acquisition of seventeen easements would increase public use of the public land.

Unavoidable Adverse Effects

The loss of 80 acres from road construction would be unavoidable.

Irreversible and Irretrievable Commitment of Resources

Title transfers of land would be irreversible and irretrievable.

Conclusion

Identification of 102,000 acres for disposal would promote an aggressive program directed at reducing management costs. It would provide an extensive pool of land that would provide maximum flexibility to improve land management by sales and exchanges. The probability of selling some of those lands would be higher simply because there would be more land to draw from. It is expected that much of this total acreage would be removed from the disposal category because of surface resource values that might be identified prior to sale.

Restriction of eight areas and easing of restrictions in two others would continue protection in the more fragile areas. Necessary rights-of-way would be allowed in the two areas where restrictions would be eased, which contain oil and gas leases (assuming oil and gas would be produced from these leased areas at some future time).

Withdrawal proposals would be confined to areas that contain unique resources. Pursuit of 5 withdrawals would be much more realistic than pursuit of the 17 withdrawals proposed for Alternative 1.

Recreation Management Program

Effects on Mineral Resources

Mineral development is not considered a compatible use with intensive recreation areas. Surface development probably would be excluded on 18,000 acres. About 1,400 acres is rated as having high potential for oil and gas occurrence; the remainder is low potential.

Effects on Vegetation, Soil, and Water

Additional project development at recreation sites would increase the area of disturbance on those sites. However, the availability of these recreation sites should decrease the impacts on soil, water, and air in the long term. Use would be concentrated more in the recreation sites; therefore, there would be less dispersed recreation activity.

Effects on Wildlife

Overnight camping at Goldeneye might cause increased disruption of waterfowl nesting if visitors roamed the shore and adjacent uplands. If ORV use off the designated roads should increase, additional nests would be destroyed.

Effects on Land Uses

Recreation management would be intensive at Muddy Mountain, Goldeneye Reservoir, the North Platte River, and the Oregon-Mormon Trail. This would affect 17,833 acres, or 1.3% of the public lands in the PRRA, and provide for quality recreation opportunities. Four other areas would be managed to facilitate the use of public lands in areas where use would be expected to increase: Bessemer Bend Historic Site, Buffalo Creek, Grave Springs, and Camel Hump. These sites cover a total of 48 acres.

Greater management emphasis would be placed on maintaining existing recreation opportunities and meeting additional public demand for day use, group camping, snowmobiling, ORV use, and overnight camping in areas where these activities are not provided or are prohibited. Development would be limited to support facilities for information, health and safety considerations, and resource protection.

ORV designations would increase. The 200-acre Poison Spider Bentonite Pit would be designated an open ORV area. Because the area is unreclaimed with no seeding and no grading and contains steep banks, bare slopes, and piles of earth, no significant environmental impacts would be expected. The site has become a trash dump and an unauthorized shooting area. ORV management and recreation maintenance would meet public demand and change an eyesore into a productive recreation use area.

Five segments of the Oregon-Mormon Trail and three segments of the Bozeman Trail would be closed to ORV use for the protection of significant cultural values. ORV designations are supportive to other programs and serve to reduce negative impacts upon the environment. A total of 1,410 acres in the PRRA would be closed to ORV use under this alternative, including the 630-acre portion of the Muddy Mountain EEA.

Resource degradation, user conflicts, and trespass problems could be managed in the short term, but over time the increased use and associated problems would stretch BLM management capabilities.

Socioeconomic Effects

The recreation management program of Alternative 3 would provide for adequate emphasis on management and maintenance. When supported by monitoring, use supervision, and enforcement, the program would sustain recreation opportunities in the PRRA for the next five years; however, in the subsequent five years it would gradually fall behind the increasing public demand for improved quantity and quality of recreation.

Short-term Use versus Long-term Productivity

Site degradation would occur in the short term and increase in the long term if management and maintenance capability remained the same or decreased in relation to the expected increase in recreational use. Mitigating measures would be to increase management and maintenance capability, monitoring, use supervision, and enforcement.

Special emphasis would be placed on interagency management, project implementation, and special recreation use permits. Special user groups might be approached to help with the management and maintenance of special use areas.

Unavoidable Adverse Effects

Unavoidable adverse effect on vegetation, soil, and water from ORV use would continue. The loss would not be significant during development of new facilities.

Irreversible and Irretrievable Commitment of Resources

Irretrievable commitment of resources would be minor with respect to loss of soil, vegetation, cultural resources, and scenic quality that would occur during construction or unauthorized ORV use.

Conclusion

This alternative would promote intensive management on four sites. Four other sites would provide facilities to enhance the public health and safety. The overall change from Alternative 1 would be an addition of two recreation sites covering 5,476 acres.

This alternative would not take care of the anticipated increase in recreation use; however, by concentrating management on areas where the greatest increase in use would be expected, it would address the recreation issue.

Soil, Water, and Air Management Program

Effects on Vegetation, Soil, and Water

Intensive watershed management in the Bates Hole area could improve watershed conditions on as much as 265,000 acres through livestock manipulation. This should improve habitat for wildlife and increase forage availability.

Implementation of the Bates Hole management plan in its entirety would result in a decrease in the sedimentation introduced to Bates Creek and the North Platte River. The condition of the watershed should improve in the long term. Riparian zones would be improved.

Short-term Use versus Long-term Productivity

Watershed quality would be improved in the long term.

Conclusion

There would be no unavoidable adverse effects and no irreversible or irretrievable commitment of resources from the soil, water, and air management program under Alternative 3.

This alternative would initiate management of the watershed in Bates Creek. This watershed is a problem area because of the high erosion. While the area is naturally poor in terms of productivity, there is an opportunity to enhance the quality of the watershed.

Wildlife Management Program

Effects on Mineral Resources

It is likely that surface development restrictions would be applied on about 3,200 acres as a result of intense habitat management on four areas. The total acreage that would be likely to be excluded from mineral activities would be about 9,000 acres. This is a significant decrease from Alternative 1 of about 49,000 acres and an increase from Alternative 2 of 3,200 acres.

Effects on Vegetation, Soil, and Water

Aquatic habitats would be improved on about 3,200 acres. There would be a significant improvement in riparian areas and an increase in water quality in one stream and three reservoirs.

Effects on Wildlife

HMP development would result in continued management of the Table Mountain and Springer/Bump-Sullivan units. Other improvements of food and cover would be accomplished at Rawhide, Bates Creek Reservoir, and Stinking Creek, with approximately the same level of improvement as that described for Alternative 1.

Improvement of trout fisheries would be limited to Bates Creek; thus, existing streams would be affected nearly as much as under Alternative 2. Watershed improvements would be the same as those described for Alternative 1.

Nongame bird habitat would be improved through increases in vegetation cover, structure, and diversity and through an increase in foods at the seven HMP areas. This would amount to approximately 1/2 to 1/3 the level of improvements described for Alternative 1.

Effects on Land Uses

Management of aquatic areas would provide additional fishing and small game hunting for the public, assuming access could be acquired for each area.

Short-term Use versus Long-term Productivity

Intensive management of HMP areas in the short term should provide long-term benefits by enhancing wildlife habitat.

Conclusion

There would be no unavoidable adverse effects and no irreversible or irretrievable commitment of resources under the wildlife management program of Alternative 3.

Implementing intensive management on seven areas would be beneficial in increasing wildlife habitat. Access into these areas, if it could be acquired, would provide recreation benefits. This alternative would resolve the issue of providing additional areas for fishing and small game hunting.

Special Designations

Effects on Cultural Resources

A mineral withdrawal on the Pterodactyl Track site would be significant in protecting this unique paleontological resource. Removing the ACEC designation would have no significant effect.

The Salt Creek ACEC plan would call for an evaluation and recognition of significant historic oil and gas sites, structures, and old townsites. This would be beneficial in preserving the cultural resources.

Effect on Minerals

About 14,000 acres would be excluded from surface development. This would affect the exploration for and development of oil and gas. The entire area is rated as having low potential for oil and gas, so the effect should not be significant. Locatable mineral entry would be excluded on 400 acres, the Pterodactyl Track site. Locatable minerals potential is considered low in this area.

The Casper Sand Dunes area (13,560 acres) could restrict oil and gas development somewhat. Development would be allowed, but travel would be limited to existing roads and trails.

Effects on Vegetation, Soil, and Water

Forest management in Jackson Canyon would include cutting and burning of beetle-infested trees within the roosts and thinning of roost stands. The long-term effects would be increased vigor and growth of remaining trees, increased diversity of age classes, and increased survival of seedlings. Maximum survival of all age classes and maximum sustained thermal protection of the stand would be achieved in the long term.

The Muddy Mountain EEA would be opened to forest management for control of pine beetle infestation. This would be beneficial in preserving the timber resource in that area.

Effects on Wildlife

Cutting of beetle trees in bald eagle roost areas in Jackson Canyon would cause immediate loss of some trees that eagles use for roosting. The loss of roosting areas and the reduced thermal protection would continue for 20 to 40 years; however, this long-term reduction in thermal protection would not be considered significant.

Effects on Land Uses

Cutting of beetle trees in the Muddy Mountain EEA might affect the quality of the recreation site on Muddy Mountain.

Rights-of-way would be prohibited on 14,000 acres. There is little or no development in these areas; thus, that impact would not be significant.

Socioeconomic Effects

Socioeconomic effects of special designations under Alternative 3 would be the same as discussed for Alternative 1.

Short-term Use versus Long-term Productivity

Management as special areas to protect resource values would be beneficial to all resource components except minerals and rights-of-way.

There would be some loss of thermal cover for bald eagles. The vigor and growth of trees in Jackson Canyon would improve. There would be beneficial effects from controlling the mountain pine beetle on Casper Mountain and Muddy Mountain.

Unavoidable Adverse Effects

The loss of trees that would be used for timber products would be unavoidable.

Irreversible and Irretrievable Commitment of Resources

Trees cut in the Jackson Canyon area to control pine beetles would not be utilized for any consumptive purpose. That loss would be irretrievable.

Conclusion

The mineral withdrawal on the Pterodactyl Track site would adequately protect that paleontological resource. Protection of cultural resources in the Salt Creek ACEC would not affect oil and gas development in that area.

Beetle control in the Muddy Mountain EEA and in Jackson Canyon would be beneficial toward eradication of the mountain pine beetle. Timber resources cut in Jackson Canyon would be lost, and bald eagles could be affected.

Precautionary measures in the Casper Sand Dunes would protect that area. The use of present land use decisions to protect the Red Wall would be sufficient except for locatable minerals.

ALTERNATIVE 4: HIGH LEVEL MANAGEMENT

Cultural Resource Management Program

Effects on Cultural Resources

Under Alternative 4, 23 sites encompassing about 4,700 acres would be protected. All known significant cultural sites would be managed for protection. This would have a significant effect on the preservation of cultural resources.

Effects on Mineral Resources

Surface development would be prohibited on about 4,700 acres. The effects on mineral development from restrictions in the Notches Dome archeological district would be the same as those discussed for Alternative 3. About 1,600 acres in the Notches Dome district could be restricted from surface development.

Approximately 240 acres of stage and Pony Express stations would be protected throughout the PRRA under this alternative. Occupancy restrictions for the Oregon and Bozeman trails would cover the same acreages as under Alternative 1. Other surface occupancy restrictions would apply to 500 acres in the Rawhide Buttes Mining District (rated as having low potential for the occurrence of oil and gas), 360 acres at Prospect Hill (high potential), and 40 acres at Emigrant Gap (high potential). The restriction would have no effect on locatable minerals.

Effects on Land Uses

Restriction of cultural areas from surface development should not have a significant effect on various land uses other than the oil and gas production occurring in part of the Notches Dome area. This could easily be mitigated.

Short-term Use versus Long-term Productivity

In the short term, all known significant cultural sites in the PRRA would be preserved. There would be a conflict in the short term in the Notches Dome area if oil and gas development was hampered. The effect could be mitigated by focusing inventory on the area of the conflict and salvaging cultural resources that might be jeopardized.

Conclusion

There would be no unavoidable adverse effects and no irreversible or irretrievable commitment of resources from the cultural resource management program of Alternative 4.

This alternative presents an aggressive management program directed at identifying new sites and protecting known sites. Nine more sites in this alternative would be protected than under Alternative 1, 13 sites more than under Alternative 2, and 8 sites more than under Alternative 3. The net change from Alternative 1 would be the protection of 9 more sites on 2,320 more acres.

This alternative would address the issue of protecting cultural resources and provide a strong program to identify areas where the incidence of these resources is high.

Energy and Minerals Management Program

The energy and minerals management program of Alternative 4 would have essentially the same impacts as those described for Alternative 2. About 12,800 acres would be available for sand and gravel extraction. The conclusion would be the same as those under Alternatives 2 and 3.

Fire Management Program

Effects on Vegetation, Soil, and Water

Brush control under Alternative 4 would cover about 15,000 acres of rangeland in 10 years, and a total of 27,000 acres in 20 years. A significant portion of this brush control would be accomplished through prescribed burning. Effects on vegetation, soil, and water would be the same as those described in Alternative 1, but the cumulative impact would be more significant because more acres would be treated.

Effects on Air Quality

There would be a significant effect on air quality around the general burn area. About 1,500 acres would have to be burned annually if all control was to be accomplished by burning. This could have local and areal impacts on air quality because burning is generally confined to a specific time of the year when burning conditions are good.

Effects on Wildlife

Effects on wildlife from fire management under Alternative 4 would be the same as those described for Alternatives 1 and 3, but they would be intensified.

Socioeconomic Effects

There could be a significant benefit to the livestock industry from increased forage.

Short-term Use versus Long-term Productivity

There would be a significant increase in forage in the short term.

Unavoidable Adverse Effects

The unavoidable adverse effects from fire management under this alternative would be the same as those described for Alternatives 1 and 3.

Irreversible and Irretrievable Commitment of Resources

In the short term, there would be an irretrievable commitment of vegetation on 15,000 acres. This would increase to about 27,000 acres in the next 20 years. This loss is not irretrievable.

Conclusion

This alternative would include an aggressive burning program that might present unacceptable reductions in air quality in a short time. Suppression zones would have essentially the same benefits as described under Alternatives 2 and 3.

Forest Management Program

Effects on Vegetation, Soil, and Water

A total of 34,000 acres of forestland could be subject to harvest. This would result in a corresponding amount of surface disturbance within a 15-year period, after which approximately 25 acres per year would be disturbed through selective cutting. The effects would be similar to those discussed in Alternative 1.

Clearcutting of 25% of lodgepole pine volume in stands in 3-acre or 10-acre size patches would be removed from these parcels—a total of 250 acres, including road construction, skidding trails, and yarding areas. This would result in soil erosion and increased potential for siltation of streams. Selective cutting would remove an additional 25% of volume in stands. Its effects would be similar to those described for Alternative 1.

Selective cutting of 100% of ponderosa pine stands or 50% of the volume in stands would have similar impacts to those described for Alternative 1.

Effects on Wildlife

Effects on endangered species habitat would be similar to those for Alternative 3. Under this alternative, maximum conversion of dense, stagnant stands of lodgepole pine and ponderosa pine would be accomplished through clearcuts and thinnings. Summer escape cover for deer and elk would be changed to a mix of escape cover with openings that permit increased growth of forbs, grasses, and browse. The practices specified would change 50% of the stands during 15 years.

Forestry management under Alternative 4 would cause the same kinds of effects on upland game, waterfowl, raptors, and nongame birds as those described for Alternative 1, but on 40% more acreage.

Effects on Land Uses

This alternative would maximize the forest management effort to achieve stand management on 8,000 acres in the shortest period of time while meeting public demand to the extent that forest resources permit. The timber harvest would be 750 mbf per year through 1990 and 500 mbf per year from 1991 to 1995. Attention would also be directed to 26,000 acres of nonproductive forest and woodland. Harvesting would be consistent with the resource available.

Although trespass would still be possible, it should be lessened by this management alternative. More compliance checks and area surveillance should help to reduce this problem.

Contemplated exchanges on Muddy Mountain and in the South Big Horns should enhance the forestry program. However, it would take at least

20,000 additional productive forest acres to accommodate a fulltime, long range forest management program.

Short-term Use versus Long-term Productivity

The short-term and long-term effects of the forest management program for Alternative 4 would be similar to those described for Alternative 1.

Unavoidable Adverse Effects

The harvesting of 750 mbf per year for 5 years, 500 mbf per year for 5 years, and 120 mbf per year thereafter would result in the disturbance of 150 acres, 100 acres, and 25 acres per year, respectively. The disturbance would be short term and the disturbed areas would be fully reclaimed.

Irreversible and Irretrievable Commitment of Resources

The irreversible and irretrievable commitments of resources would be similar to those described for Alternative 1.

Conclusion

Under Alternative 4, timber harvest would increase to an annual yield of 750 mbf through 1990 and 500 mbf from 1991 to 1995 in 8,000 acres of productive forestland and 26,000 acres of nonproductive forestland.

Management plans would be initiated to promote regeneration of new forest stands through cutting, thinning, and planting as necessary.

The forest management alternative would promote a longer supply of wood products. Conversely, it would not sustain a long-term forest management program because the resource base is not present in sufficient quantity in the PRRA.

Grazing Management Program

Effects On Vegetation, Soil, and Water

Range condition and forage production would be maintained on 303,977 acres and improved on 1,115,400 acres.

Sagebrush control by burning or chemical application would be carried out on a minimum of 26,580 acres. About 14,500 acres would be completed in ten years. The effects would be the same as those discussed for Alternative 1.

Watershed conditions could be improved on up to 1,080,400 acres through livestock manipulation on 29 grazing leases, and up to 125,000 acres through improved livestock distribution as a result of the development of 190 new water developments and the construction of 97 miles of new fence. This would result in soil compaction and erosion on 331 acres.

Impacts associated with brush, weed, and grasshopper control would be similar to those described for Alternative 1.

Effects on Wildlife

Greater emphasis on livestock and reduced emphasis on wildlife management in the short term would result in decreased wildlife populations in the long term.

Grazing management, which would favor livestock at the expense of wildlife, would cause decreased forage and vegetative cover on areas where livestock compete significantly with big game. If studies verified that competition was causing deteriorated range conditions, recommendations would be made to WGFD to reduce the game herds. The long-term impacts would be recovery of vegetation with increased livestock numbers and decreased big game populations.

The increase in fence construction would increase the restriction on big game movement. Antelope movement through migration routes and critical winter ranges could be hindered. Severe winters in combination with the added fences could cause heavy losses to some herds. Water projects developed in critical winter ranges could further accentuate competition between livestock and big game, causing decreased foods and vegetative cover.

Effects on Land Uses

Effects on land uses for this alternative would be the same as those described for Alternative 1, except that benefits from brush control would increase to 3,364 AUMs; improved range conditions through livestock management techniques would produce long-term benefits of 9,450 AUMs; there would be no livestock adjustments in favor of wildlife; and benefits from water development would be 5,650 AUMs.

Socioeconomic Impacts

Livestock AUMs would increase from 204,704 to 222,168 AUMs, for a net increase of 18,464 AUMs.

Conclusion

Range improvement project development and implementation on 29 AMPs would produce a 3% short-term benefit of 6,190 AUMs. A long-term benefit of 18,464 AUMs would be gained. Range condition would be maintained on 303,977 acres and improved on 1,115,500 acres.

Lands Program

Effects on Land Uses

The effects on the land program under this alternative would be nearly identical to those of Alternative 1. Two additional areas would be identified for disposal only under the R&PP Act. These areas have not been considered in previous planning, but they have excellent potential for recreation use. The public benefits to be realized would be slightly greater than those from Alternatives 1 and 3. A total of about 1,740 acres would be identified for R&PP disposal only. The time limit on this restriction would apply to the same lands as in Alternative 3.

More areas would be identified for exchange than under Alternative 1. The benefits of exchanges would be increased over previous alternatives.

All the land identified for disposal (102,700 acres) could be disposed of by other methods without any limitation on lands inside RMUs. This would give greater flexibility for disposal and a greater availability of lands.

Eight areas would be identified for exchange. A moderate to high probability exists that exchanges in all eight area could be completed. Each of these areas is a key management area, but some specific exchanges might not meet the criteria for exchanges.

Conclusion

Short term use, unavoidable adverse effects and irreversible and irretrievable commitment of resources would be similar to those described for Alternatives 1 and 2.

The major difference between this alternative and previous ones is that lands identified for disposal inside RMUs would be available for all types of disposal and not limited to exchanges within the RMUs. Access, corridors and withdrawals would remain unchanged from Alternative 3; thus, the effect would be the same as those described in that alternative.

Recreation Management Program

Effects on Mineral Resources

Parcels that are considered for recreation management plans would likely be protected from surface development if they are not already so protected. This would restrict oil and gas operations. It is expected that some acreages would be sufficiently large to restrict the industry's ability to extract the resource through development adjacent to these areas. A total of 36,347 acres would be affected under this alternative.

Effects on Land Uses

The recreation management program of Alternative 4 is a combination of Alternatives 1 and 3. There would be intensive recreation management on 15 special recreation management areas for 48,713 acres, or 3.5% of the PRRA. This would increase management from the present 12,733 acres. The 35,980 additional acres of intensively managed recreation areas would significantly affect the overall recreation program in the PRRA.

Management and maintenance capability would be needed before new areas could be developed. Significant emphasis would be placed on monitoring, use supervision, and enforcement. The result would be more high quality recreation opportunities dispersed throughout the PRRA near population centers and areas of expected increased use.

Seven areas would require the development of public access, minor site disturbance for developing parking and camping areas, and sanitary and trash facilities. No major facility development would occur.

Short-term Use versus Long-term Productivity

There would be an increase in short-term use of the new areas with a long-term benefit for recreation resources. Management of these 15 special areas would protect natural and cultural resources, maintain scenic and recreational values, and increase recreation opportunities in managed areas by nearly 300%.

Unavoidable Adverse Effects

The unavoidable adverse effects of the recreation management program under Alternative 4 would be similar to those described for Alternatives 1 and 3.

Irreversible and Irretrievable Commitment of Resources

The irreversible and irretrievable effects of the recreation management program of Alternative 4 would be similar to those described for Alternatives 1 and 3.

Conclusion

Under this alternative, two RAMPs would be maintained and 11 others would be implemented. ORV designations would remain unchanged from Alternative 3. Environmental education areas would remain at three sites.

This alternative would present an aggressive recreation plan directed at meeting the projected recreation needs in the resource area in the next ten or more years.

Soil, Air, and Water Management Program

Effects on Vegetation, Soil, and Water

Effects on vegetation, soil, and water would be similar to those described for Alternative 1. Watershed conditions could be improved on as much as 265,000 acres in the Bates Hole area through livestock manipulation and, where needed, watershed manipulation and the construction of water retention and detention structures.

Watershed condition could be improved on up to 927,000 acres of sensitive drainage areas and 9,000 acres of designated fragile areas through watershed manipulation and the construction of water and silt retention and detention structures.

Soil and water conditions on the Salt Creek ACEC would improve at a more rapid rate than in other alternatives as a result of greater emphasis on oil field cleanup and extending cleanup to other fields in that watershed.

Conclusion

Short-term and long-term effects, unavoidable adverse affects, and irreversible and irretrievable commitment of resources would be the same as those described for Alternative 1.

This alternative would result in long-term improvement of the watershed conditions in the Bates Hole area and in improvement of the water quality in the Salt Creek drainage.

Wildlife Management Program

Effects on Mineral Resources

Implementation of nine HMPs covering about 56,000 acres could result in surface development restrictions on an additional 51,000 acres more than in Alternative 1 and 52,000 acres more than in Alternative 3. At present, surface development is restricted on 5,740 acres. This alternative would not eliminate surface development, but the probability is high that no surface development would occur.

Effects on Vegetation, Soil, and Water

The effects described for the wildlife program on vegetation, soil, and water would be applicable to Alternative 4. HMP development would be focused on the most promising areas. Areas identified in Alternative 1 as having low potential would not be developed. Increases of food and cover would be accomplished on five wetlands and five streams. This alternative would provide the maximum opportunity for improving habitat for upland game and waterfowl at selected sites.

Beaver would be used as a tool to rehabilitate riparian zones at Bolton Creek, Stinking Creek, and in the Medicine Bow HMP area. This would cause higher water tables, reduced silt loads of the streams, increased width and vegetative cover of the riparian zone, and short-term removal of willows and cottonwoods. Populations of beaver would be controlled through trapping in cooperation with WGFD.

Effects on Wildlife

Nongame bird habitat would be improved through increases in vegetative cover, structure, and diversity and through an increase in foods. This would be accomplished on 1/4 to 1/3 more acres than under Alternative 1.

Conclusion

Short-term and long-term effects, unavoidable adverse affects, and irreversible and irretrievable commitment of resources would be essentially the same under Alternative 4 as those described for Alternatives 1 and 3.

This alternative would result in extensive habitat development and improved riparian habitat. It would promote a significant increase in small game and would enhance big game habitat. The largest of these proposals is the Medicine Bow HMP, which would be a cooperative habitat management effort with the Rawlins District. This HMP would be directed at improving endangered species habitat. There are significant opportunities in this area to enhance riparian areas, waterfowl habitat, and big game habitat.

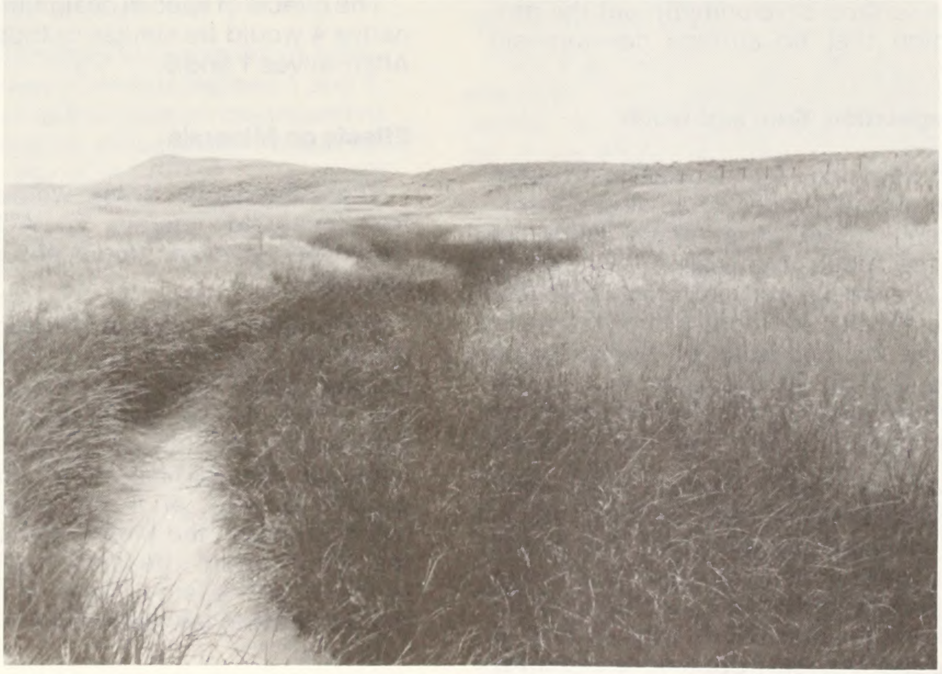
Special Designations

The effects of special designations under Alternative 4 would be similar to those described for Alternatives 1 and 3.

Effects on Minerals

The Pterodactyl Track would be withdrawn from locatable minerals. The ACEC designation would be removed. About 400 acres would be affected.

Other areas withdrawn from locatable minerals would be the Red Wall, 8,700 acres; Jackson Canyon, 3,600 acres; and Muddy Mountain EEA, 675 acres. These withdrawals would prohibit exploration for and development of locatable minerals. No surface development would be allowed on any of these areas except forest management in the Muddy Mountain EEA. That restriction would affect any future development of the oil and gas resource. All these areas are rated as having low potential for oil and gas.



Preferred Management Plan

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CHAPTER 5: THE PREFERRED MANAGEMENT PLAN

We have selected as the preferred management plan the approach we believe is best for addressing each issue. Thus, our preferred management plan is made up of elements of Alternatives 1, 2, 3, and 4, depending on which of the alternatives best meets the needs of each resource program.

Table 2-1 in chapter 2 presents the alternatives that were selected for each program issue under the heading "Preferred Management Plan." The rationale for those selections is discussed in this chapter by resource program. Detailed prescriptions for management of each resource program are discussed following the rationale.

RATIONALE FOR SELECTIONS

Cultural Resources

Alternative 4 was selected as best for addressing the issue of protection of cultural resources.

The selected program proposes an active role in managing cultural resources as opposed to a reactive program. We would concentrate management in areas or on sites where known cultural or historic values are present. This alternative would promote an active role in locating and affording adequate protection for cultural resources. Management would be initiated on all significant cultural sites in the resource area. For this reason, Alternative 4 for cultural resources is preferred to the other alternatives.

Energy and Minerals

Alternative 1 was selected as best for addressing the issue of sand and gravel extraction.

The current demand for gravel along the river is being satisfactorily met from gravel sources from privately owned minerals and from federally owned minerals beyond the ¼ mile restriction along the river. Gravel supplies from these sources are expected to remain adequate to meet future demands.

The marketing of sand and gravel, moss rock, flagstone, and other mineral materials from the federal mineral estate is proceeding satisfactorily throughout the resource area, with minimal degradation of other environmental factors.

Fire Management

Alternative 3 was selected as best for addressing the issue of fire management.

The fire management program of Alternative 3 provides the best mix of fire management within an obtainable planning strategy. It requires active involvement in the planning, field reconnaissance, and implementation phases by both the district fire management officer and a resource area advisor. In addition, input would be sought from all resource area personnel for the NFYP, resulting in a stronger suppression strategy and coordinated resource protection effort.

The establishment of fire suppression zones would require a written plan of operation for each zone. A wildfire rehabilitation plan and a prescribed fire plan would also be developed. The prescribed fire plan can become extremely important as a planning document preceding activity level planning, so that the fire management program can anticipate resource goals and timely completion of priority management objectives.

Establishment of fire suppression zones would highlight resource values and place protection emphasis on areas where wildfire has the greatest potential for adverse impact on property and human life. In addition, a limited suppression plan would identify areas of low resource value and address suppression in RMUs at costs commensurate to those values.

Forest Management

Alternative 4 was selected as best for addressing the issue of timber harvest and pine beetle control.

The forestry program of Alternative 4 offers the best opportunity to carry out forest management effectively. It considers other forest management actions such as inventory, field reconnaissance, and management plan prescriptions that are needed for an effective program, and it does not place singular emphasis on harvesting, as other alternatives do.

This alternative also provides for an active forest management program that would reasonably harvest the productive forestland in a short time and prepare the way for future supplies of timber products. This cannot be done until stands are brought under management and then managed for their full productivity. The Alternative 4 forestry program also would maximize forest management to gain full utilization of the product.

The alternative 4 forestry program promotes an agressive treatment of the pine beetle problems and full consideration for use of wood products from productive and nonproductive forestland.

Grazing Management

Alternative 1 was selected as best for all aspects of grazing management except range improvement projects. Under the preferred management plan, development of range improvement projects would be intensified.

Analysis of the grazing situation in the resource management plan shows the following situation to exist in the Platte River Resource Area:

> Areawide range conditions are generally rated good. There has been a gradual historic improvement in range condition.
>
> Of the 10% overall potential increase in livestock forage, half could be acquired through livestock management techniques and half through the development of range improvement projects.
>
> Overgrazing problems, when they do occur, are generally sporadic and isolated and in different areas from year to year.
>
> The analysis did not show significant use conflicts between livestock and other resource users.

The Alternative 1 grazing management program allows for intensifying use supervision over the entire resource area, but most particularly in "I" and "M" category allotments.

Range improvement project money would be used primarily for development of new projects rather than for project maintenance.

Livestock grazing use changes that are needed because of future use conflicts or project development would be implemented through lease stipulations rather than through intensive allotment management plans.

Selection of the preferred alternative would allow administration of all leases, adequate supervision of "I" and "M" allotments, reaction to grazing problems as they occur, and improvement of range conditions through project development and limited livestock manipulation. We can do all of this without allowing or creating significant adverse impacts on resources within the resource area.

Lands

Disposal, Acquisition, and Leasing

Recreation and Public Purposes

Alternative 3 was selected as best to handle R&PP needs.

Alternative 3 would allow maximum use of public land for public purposes without time and effort being spent pursuing applications that might not be granted. The work would still be reactive. Prime areas are designated for R&PP only, but after 1987 most of these areas could be sold or exchanged. That option broadens opportunities.

This alternative also would allow for transfer of management or ownership of river frontage east of Casper only under the R&PP Act, thereby ensuring continued public use of these lands. The BLM is not actively managing these parcels, and the fact that such management appears unlikely means that an opportunity to enhance public recreation would be lost.

Exchanges

Alternative 4 was selected as best for handling exchanges.

This alternative would provide a broad base of areas in which the BLM could acquire land in exchange for public land. The areas included in Alternative 4 provide a more reasonable exchange package than those in other alternatives. This alternative also would resolve possible conflicts with disposal of river tracts under R&PP. The exchanges are keyed to prime areas identified for management by other programs.

Sales

Alternative 3 was selected as best for land sales.

This alternative would put the BLM in an active sales program consistent with recent program efforts and funding. It also would present a good opportunity to improve management efforts and reduce costs.

Withdrawals

Alternative 3 was selected as best for the issue of withdrawals.

This alternative, which is best suited to the withdrawal effort, would limit consideration to areas that actually meet the criteria and are suitable for withdrawal.

Corridors

Alternative 3 was selected as best to address the issue of corridors.

Alternative 3 includes several changes from the current decision to eliminate unnecessary corridors and restrictions and to provide a realistic corridor decision.

Access

Alternative 4 was selected as providing the most realistic overall transportation plan.

Under this alternative, unneeded access roads would be eliminated, and those most needed would be better defined. Access roads would be keyed to management areas of high demand or high use.

Recreation Management

Alternative 3 was selected as best to address the issues of recreation management.

This alternative would establish management and maintenance priorities and improve the quality and quantity of recreation experiences.

Management and maintenance priorities for the eight existing recreation sites, in order of high to low priority, would be Muddy Mountain, Goldeneye, Bessemer Bend Historic Site, Trappers Route Canoe Trail, Oregon-Mormon Trail, Buffalo Creek Campground, Grave Springs Campground, and Camel Hump Campground. The Bessemer Bend Historic Site, which is part of the Oregon-Mormon Trail, would be included in the Oregon-Mormon Pioneer National Historic Trail RAMP to be developed in 1984.

Facility development in two special recreation management areas identified in the Muddy Mountain and Goldeneye RAMPs would continue to be implemented. The Muddy Mountain RAMP would be amended to include a day use area and group camping area and forest management of a natural area. Priority management for winter use on Muddy Mountain would focus on the snowmobile program. The Goldeneye RAMP would be amended to provide an overnight camping area. High priority preparation and implementation of the North Platte River special recreation management area RAMP would be achieved. The PRRA would provide recreation input into the statewide Oregon-Mormon Pioneer Historic Trail RAMP.

Facility development in the remaining public lands would be limited to support facilities necessary for the health and safety of the users. We would continue to provide monitoring, use supervision, and enforcement on all public lands in the PRRA.

Management of ORVs in the PRRA would increase significantly beyond the eight areas now designated. There would be a 200-acre open area at the Poison Spider bentonite pit. Segments of the Oregon-Mormon Trail closed to ORV use would increase from 320 acres to 696 acres, and three segments of the Bozeman Trail (960 acres) would be closed to ORV use. ORV use in the Casper Sand Dunes, now limited to designated roads, would be modified to existing roads during fall hunting season only. ORV use in the remaining public lands in the PRRA would be limited to existing roads and trails except for performance of necessary tasks.

The BLM would not develop environmental education area plans in cooperation with the Natrona County School System but would continue to authorize use through special recreation use permits.

This alternative would not duplicate services or facilities already provided by other agencies or the private sector, nor would it provide new highly developed facilities.

Intensive recreation management would be provided only for the four special recreation management areas: Muddy Mountain, Goldeneye, the North Platte River, and the Oregon-Mormon Trail. The rest of the PRRA would be managed for the recreating public with the minimum regulation and supervision required to ensure an enjoyable recreation experience, to protect the environment, and to minimize user conflicts.

Recreation management efforts in the PRRA would be supported through the BLM's ability to monitor and supervise use and to conduct enforcement. Priority would place special recreation areas first, ORV designations second, developed extensive areas third, and undeveloped extensive areas fourth.

Soil, Water, and Air

Alternative 4 was selected as best to address the issue of watershed protection.

This alternative would provide comprehensive watershed management effort in the PRRA to maintain and enhance watershed quality. The effort would include reduction of erosion and the maintenance or enhancement of water yield and quality for wildlife, recreation, livestock, municipal use, irrigation, and other public uses. This would be accomplished through the development and implementation of management plans in Bates Hole and in identified sensitive drainages and designated fragile areas.

The preferred alternative would support Wyoming State Office goals and objectives in "providing for the protection and enhancement of soil quality by preventing or reducing soil erosion (wind/water), thus minimizing sedimentation and deterioration of the resource base." It complies with relevant laws and solicitors' opinions concerning the BLM's responsibilities for protecting and enhancing the quality, quantity, and use of waters on public lands and supports local and national efforts to maintain and improve air quality.

This alternative would provide for an active soils and watershed management program in that protective stipulations would be applied where needed. It also would provide for enhancement of watershed condition (reduction of erosion and the improvement of surface water quality) in identified areas of concern.

Wildlife

Alternative 4 was selected as best to address the issue of wildlife habitat management.

The preferred alternative identifies 12 areas for intensive wildlife management: Table Mountain, Springer/Bump-Sullivan, Jackson Canyon, Medicine Bow, Rawhide, Bolton Creek, Stinking Creek, Upper Laramie River, Bates Creek Aquatic Habitat, Bates Creek Reservoir, Teal Marsh Reservoir, and Thirty-three Mile Reservoir.

Half of the 16 areas designated in the present management alternative for HMP development would be dropped. Five are extensive areas of big game habitat for which there is little opportunity to increase populations. Further, there is demand at present to reduce, not increase, antelope and deer populations. The other three areas dropped from the existing management alternatives are the aquatic habitat areas, to which there is no legal access. These areas offer little opportunity to improve wildlife populations or recreation.

Four new areas would be designated for HMP development under Alternative 4. Medicine Bow is an area encompassing 50,000 acres in the Platte River Resource Area, for which a management plan is being cooperatively developed with the Medicine Bow Resource Area of the Rawlins District. Opportunities are available here to improve endangered species habitat (bald eagle, black-footed ferret, peregrine falcon), aspen stands, riparian habitats, and waterfowl and big game habitats.

There are 200 acres of public lands adjacent to the Wyoming Game and Fish Department's Rawhide Unit that could be managed cooperatively with the WGFD to provide for hunting, fishing, and canoeing. Bolton Creek (200 acres) and Stinking Creek (500 acres) are two other areas which, like the Rawhide parcels, could provide improved riparian habitat for big game, small game, and nongame wildlife. All of these areas have public access and good potential for improvement of habitat and wildlife recreation.

The remaining areas carried from previous planning are the Table Mountain and Springer/Bump-Sullivan units, where extensive habitat development and waterfowl hunting have been provided in cooperation with the WGFD. The Jackson Canyon ACEC/HMP would continue to be managed for bald eagle habitat, with increased forest management to control mountain pine beetle infestations. Wetlands would be improved in Teal Marsh and in Thirty-three Mile and Bates Creek reservoirs. Fisheries and riparian habitats would be improved at Bates Creek and Upper Laramie River.

Special Designations

Alternative 3 was selected to best address the issues in Salt Creek ACEC, Pterodactyl Track ACEC, Muddy Mountain EEA, and Casper Sand Dunes. Alternative 2 was selected for the Red Wall ACEC.

The ACEC designation for the Red Wall would be removed. Current management would continue. This management adequately protects resources in the area without the development of a recreation management plan. To date there has been no strong public support for designation of the area as an ACEC.

The ACEC designation for the Pterodactyl Track would be removed, and the area would be withdrawn from mineral entry. Existing protective measures and the withdrawal of the area from mineral entry would adequately protect the resources in the area without the development of a management plan. To date there has been little support from the general public or the scientific community for development of a plan for the area. It also appears that development of a plan would increase the risk of vandalism in the area.

The management plan for the Salt Creek drainage ACEC would be ammended to establish portions of this area as a historic district if inventory and study revealed sufficient historic resources in place to warrant its establishment. Establishment of the area as a historic district would not interfere with current operation but would provide for the establishment of interpretive sites in significant areas and could provide some financial incentive for cleanup.

The Jackson Canyon ACEC designation would be maintained. An implementation plan for this area would be included as a portion of a resource area-wide bald eagle HMP, and under this plan the ACEC would continue to be managed primarily for bald eagle habitat. Alternative 3 was chosen as best to maintain priority for this important endangered species habitat. Protection of winter roosts from mountain pine beetle infestations would be enhanced, and the BLM would cooperate with state, county, and private control efforts. Stipulations would restrict disturbance activities (ORV use, minerals exploration and development, rights-of-way) during winter. Alternative 3 is the least damaging environmentally; the roosts could not be protected from beetle infestations under alternative 2.

A withdrawal from mineral entry would be pursued for the Muddy Mountain EEA to ensure the integrity of the area for continued use for environmental education.

The 675-acre natural area would undergo intensive forest management to control mountain pine beetle infestations. To date the area has been managed strictly as a natural area. The change is needed to ensure that the stand remains healthy and to stimulate regeneration.

There has been limited development in the Casper Sand Dunes area to date, and it has been impossible to reclaim disturbed areas adequately within this and other sand dune areas. This alternative will provide an opportunity to try to develop reclamation techniques for sand dunes areas throughout the PRRA.

RESOURCE MANAGEMENT PRESCRIPTIONS

Introduction and Background

This RMP/EIS is a management plan first and an EIS second. Early in the scoping process, guidance was set forth to provide for the establishment of resource management units (RMUs) and prescriptions. Map 22 locates the 14 RMUs in the PRRA. RMUs are areas with the following characteristics:

Existing land use decisions or identified issues overlap or are in conflict with each other.

Land use management actions need to be ranked in order of primary and secondary importance and managed accordingly.

Boundaries have been identified through previous land use plans or management decisons.

Special management concerns have been previously identified and will require program activity plans.

There is a need for intensive management for limited or restrictive use, or to protect unique or fragile areas, or to manage dominant and significant resource values.

Special management is needed for resource development such as oil, gas, coal, or wood products.

The RMU areas are identified as follows:

RMU 1: South Big Horn Mountains
RMU 2: Pine Mountain-Goldeneye Reservoir
RMU 3: Oregon-Mormon Trail
RMU 4: Fremont Canyon
RMU 5: Salt Creek
RMU 6: Casper Sand Dunes
RMU 7: North Platte River
RMU 8: Casper Mountain-Muddy Mountain-Jackson Canyon
RMU 9: Bates Hole
RMU 10: Laramie Range Foothills
RMU 11: Ross
RMU 12: Mule Shoe Flats-Richeau Hills
RMU 13: Rawhide-Table Mountain-Springer/Bump-Sullivan
RMU 14: Remaining PRRA

It should be noted that the unit prescriptions for each of the fourteen areas will focus chiefly on the resource values present and the prescription for each resource program in that unit.

RMU management prescriptions define the types of land use action that would occur in each RMU as a result of the preferred management plan. Where dominant resource values and actions are not prevalent, the prescription will focus on major or priority management actions that would be carried out to improve, sustain, or protect resources in the unit.

This process affords detailed direction to specific geographic units and provides a clear picture of what resource values and BLM program actions would be initiated to manage resources over a ten-year period. It also will serve as an important budgeting tool. As priority programs and actions are characterized by unit, work force requirements and materials can be budgeted systematically to support planned actions.

Prescriptions for Each RMU

RMU 1: South Big Horns

The South Big Horns RMU (RMU 1) contains about 381,000 areas of BLM-administered surface, 349,000 acres of state and private lands, and 404,000 acres of federal mineral estate. Dominant resource values are grazing, recreation, and wildlife. Other resource values are forest resources, oil and gas, and salable minerals such as sand and gravel, moss rock, and flagstone. Mining claims are present for bentonite, gold, and silver. There are prehistoric cultural sites in four areas.

Management emphasis would be on grazing (all or parts of 10 "I" category allotments and 11 "M" category allotments); forestry, recreation, and wildlife (related timber harvest, recreation facility maintenance, and maintenance of wildlife habitat); and lands and realty (obtaining access agreements and disposing of isolated unmanageable lands). Oil and gas potential in the portion of the unit west of the Red Wall and north of the Badwater and Lost Cabin-Arminto lands is low to moderate; the rest of the unit has high potential for oil and gas. Fire suppression zones are required to direct suppression priorities and constraints.

Cultural Resources

Before development of federal minerals could begin, cultural resource inventory would be conducted on federal surface according to standard procedures. Existing policy on cultural resource inventory would be followed with regard to development of federal minerals under private surface.

Mitigation would be directed toward eliminating or reducing adverse impacts to potentially significant cultural resources. The Notches Dome Archeologic District (with prehistoric site values), Rock Cairn Trail, and site AR-WY-06-171 would be protected from surface disturbance. The legal descriptions for these areas are given in the "Cultural Resources" section of appendix B.

Energy and Minerals

We would continue to issue sales and free use permits in environmentally acceptable areas for mineral material, moss rock, and sand and gravel as required by public demand. Mining claim staking, exploration, and development are at a low level of intensity.

In the South Big Horn Mountains unit, west of the Big Horn Mountain road and north of the Badwater and Lost Cabin-Arminto roads, oil and gas development would not be permitted on parcels identified on maps 17 and 20.

If economically recoverable quantities of hydrocarbons should be discovered, an oil field development plan with well locations, road locations, and all pertinent information would have to be provided to the BLM before to further development could take place.

Surface development would be prohibited within ½ mile of either side of the Red Wall.

Oil and gas development would be permitted throughout the rest of the RMU, subject to decisions that protect wildlife, soil, and water resources. These are identified in appendix B.

Fire Management

Priority full suppression zones are proposed for forestry, and recreation (4,800 acres), wildlife (5,800 acres), and oil and gas fields (6,400 acres). Urban/rural interface buffer zones and adjoining private land values would require 3,800 acres of scattered BLM parcels to be managed for full fire suppression.

The proposed limited suppression zone would encompass more than half the South Big Horn RMU—approximately 300,000 acres. Buffer zones ¼ mile wide would be established between areas of priority suppression and limited suppression. Full suppression actions would be taken in these areas, as currently directed. These areas cover approximately 52,500 acres.

Additional fire suppression constraints would be incorporated with the existing critical elk winter range, and any pertinent cultural protection standards would be included in the normal fire year plan and the operational plan for priority full supression.

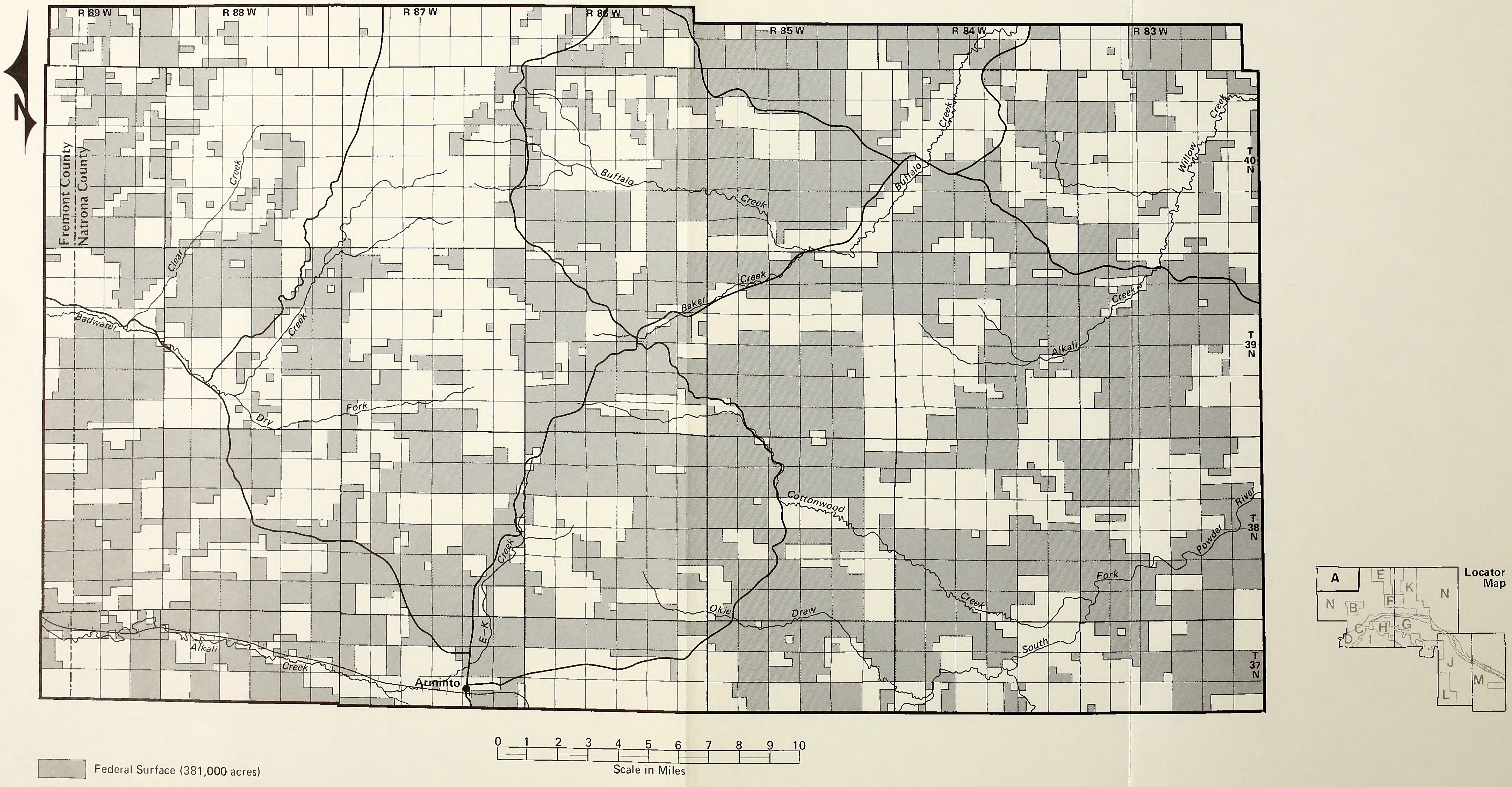
As part of the limited suppression planning and implementation, owners of intermingled parcels of land within limited suppression zones would be contacted for their approval of incorporating private lands of similar low value, low risk into the limited suppression plan. Twelve cooperative agreements would be needed.

Prescribed burning would be implemented on 10,500 acres after 14 burn plans were completed on 11 grazing allotments and one stock driveway. In addition, 1,000 acres have potential for prescribed burning to enhance forestry and wildlife values in the Badwater, Upper Forks of Buffalo Creek, and Taylor Slope areas. Prescribed burns in these areas would be initiated as dictated by field intensive study.

Forest Management

In the Grave Springs area, we would cut 50% of the stand, approximately 100 acres per year. We would cut to 80 square feet of basal acres, and we would harvest 500 mbf or more per year for approximately three or four years during 1990 through 1995.

We would undertake the first stage of a two-stage shelterwood cut and plan for 10 to 15 clearcuts of 3 to 5 acres each. When the stand was stocked (600 trees per acre), and trees had grown to pole size, we would undertake the second stage—to perform thinnings at ten-year intervals for the seedling-sapling stage and at twenty-year intervals for the pole stage.



▨ Federal Surface (381,000 acres)

☐ Private Surface (349,000 acres)

Federal Mineral Estate (404,000 acres)

Map A South Bighorns Resource Management Unit

In the South Cottonwood/Notches Dome area, we would collect field data, prepare a timber management plan if needed, and harvest in accordance with the plan.

In the Badwater area, we would conduct a forest reconnaissance on the area, collect data, and determine the resource potential.

In the Sioux Pass area, we would conduct a forest reconnaissance, collect data, and determine the resource potential. If sufficient resources should be present, we would write a plan of action for sales.

Grazing Management

RMU 1 contains all or parts of 10 "I" category allotments and 11 "M" category allotments. Livestock use in two "I" category allotments, the Buffalo Creek Ranch (Aetna Insurance Company) and Willow Creek Company, would be monitored more intenstively for livestock and deer-elk grazing conflicts. After the first five years, either these studies would be dropped because no conflict was found or we would initate action to settle the conflict. We would expand monitoring in the area to the Coffman Ranch Company and the Cloud Creek Sheep Company as necessary.

Lands

Approximately 2,520 acres have been tentatively identified for disposal. These lands do not include critical elk or deer range or riparian areas. Exchanges would be considered only for acquisition in critical elk ranges. Acquisition of access roads would be pursured for Alkali, Hitt, and Big Sulphur.

Recreation Management

We would continue to manage principally for extensive and dispersed recreation use with minimal regulatory constraint.

ORV use would be limited to existing roads and vehicle routes on all public lands in the RMU except for the Red Wall area, where ORVs could be used only on designated roads and vehicle routes on 32,295 acres. The Red Wall area would be signed accordingly.

Buffalo Creek and Grave Springs campgrounds would continue to be managed and maintained for camping with only minimum support facilities such as vault latrines, improved access roads, trash cans, picnic tables, and designated campsites at each campground.

Soil, Water, and Air

We would study the following sensitive drainage to determine the need for additional protective measures for development and implementation of watershed management plans: Anderson Draw, Okie Draw, Alkali Creek (near Lysite), Indian Creek, Buffalo Creek, and Badwater Creek. Further study also would be carried out for a fragile watershed area in Mikes Draw, T37N, R85W.

On the basis of cost-benefit analysis, the management plans could prescribe watershed manipulation, construction of water spreaders, and construction of water detention and retention structures. Intermediate and long-term stream monitoring would continue in the following drainages: Badwater Creek, Sioux Creek, Alkali Creek, Clear Creek, and Dry Fork of Badwater Creek.

Wildlife

Monitoring of elk winter use areas and of competition for forage between elk and livestock would be initiated. Elk calving areas would be identified and protected. We would fence the south end of Pete Holman's allotment, initiate monitoring of deer-livestock competition, and monitor raptor nesting and sage grouse strutting. We also would install guzzlers, develop springs and seeps for chukar, deer, and sage grouse, conduct ferret searches on prairie dog towns, and monitor fisheries pressure. We would coordinate with WGFD if stocking or stream improvement should be needed, initiate brush treatment as necessary, and fence the wetlands portions of reservoirs. Improvements would be maintained as needed.

Preferred Management Plan

RMU 2: Pine Mountain-Goldeneye Reservoir

Pine Mountain-Goldeneye Reservoir (RMU 2) contains 26,000 acres of BLM-administered land and 66,000 acres of state and private lands; there are 71,000 acres in federal mineral estate. The dominant resource values are wildlife, with critical habitat for a rare and endangered species (bald eagle roosting, perching, and feeding areas) on Pine Mountain and waterfowl and fisheries populations at Goldeneye; oil and gas potential; and recreation particularly at Goldeneye Reservoir. Other resource values are cultural resources and forest resources. Fire management actions are required to protect sensitive resources and important structures.

Cultural Resources

Cultural resources would be subject to low intentisty management except for necessary inventories and mitigation of surface-disturbing activities.

Energy and Minerals

We would continue to monitor mining claims. Most of these are for bentonite; some claims are for thorium, rare earths, and gold. We would issue free use permits for sand and gravel, if those materials were available, for state and county highways. Moss rock and flagstone material sales would continue on public demand.

The oil and gas potential on and around Pine Mountain is considered to be high. There is a small field on top of the mountain with marginal productivity. Numerous dry holes have been drilled recently on and around the mountain. A 25,000-foot deep test at the top of Pine Mountain has been abandoned. Well site location and drill permitting has been active recently.

Management would continue to focus on protection of sensitive resources and monitoring of impacts on bald eagle roost areas when feasible. Oil and gas potential in the vicinity of Goldeneye wildlife and recreation area is high, but little interest has been expressed to date. No development would be allowed inside that area.

Fire Management

Priority full suppression zones would include those for recreation, 700 acres; wildlife, 1,000 acres; oil and gas, 4,250 acres. Urban/rural interface near the towns of Powder River and Natrona and other adjoining private land values would require 2,500 acres of scattered BLM parcels to be managed for full fire suppression.

A limited suppression zone would be designated that would encompass an area of low value resources. This zone would comprise less than half the Pine Mountain-Goldeneye RMU, or approximately 12,000 acres. Private landowners within the limited suppression zone would be contacted for their approval of incorporation of lands of similar low value into the limited suppression plan. Six cooperative agreements would be needed.

Buffer zones ¼ mile wide would be established between areas of priority supression and limited suppression. Suppression actions taken in these areas would be full suppression, as now. Approximately 8,000 acres would retain existing fire suppression method constraints in bald eagle roost areas.

Prescribed burning would be implemented on 2,100 acres after three burn plans and EAs were completed on three grazing allotments.

Forest Management

Forest management would center principally on collection of field data for Pine Mountain. If an adequate resource is present, the harvest would take place on demand. If the resource should be found unsuitable for harvest, the area would be eliminated from forest management consideration.

Grazing Management

RMU 2 contains all or part of five "I" category allotments and five "M" category allotments. The Goldeneye allotment (Brewer) would be monitored closely because of the recreational use of Goldeneye Reservoir.

Lands

Approximately 720 acres have been identified for disposal. These lands do not include sensitive habitat for rare or endangered species or lands within or adjacent to recreation management areas.

Easements would be sought for pedestrian trails around Goldeneye Reservoir.

Recreation Management

Generally, this unit would be managed as an extensive recreation management area where dispersed recreation would be encouraged and where visitors have freedom of recreation choice with minimal regulatory constraint. Goldeneye Reservoir area was designated a special recreation management area, and the Goldeneye Wildlife and Recreation Area Management Plan was completed and implemented on March 17, 1978. The plan provides detailed planning with specific objectives use by visitors and for resource protection while recreational opportunities are provided consistent with public demand. The plan would be amended to include an overnight camping area.

ORV travel in the area is limited to the designated access road only.

Support facilities to be provided are 1 vault latrine, 1 parking area, 1 boat ramp, 3 trash cans, 1 picnic ramada, 6 picnic tables, and 6 campsites.

Soil, Water, and Air

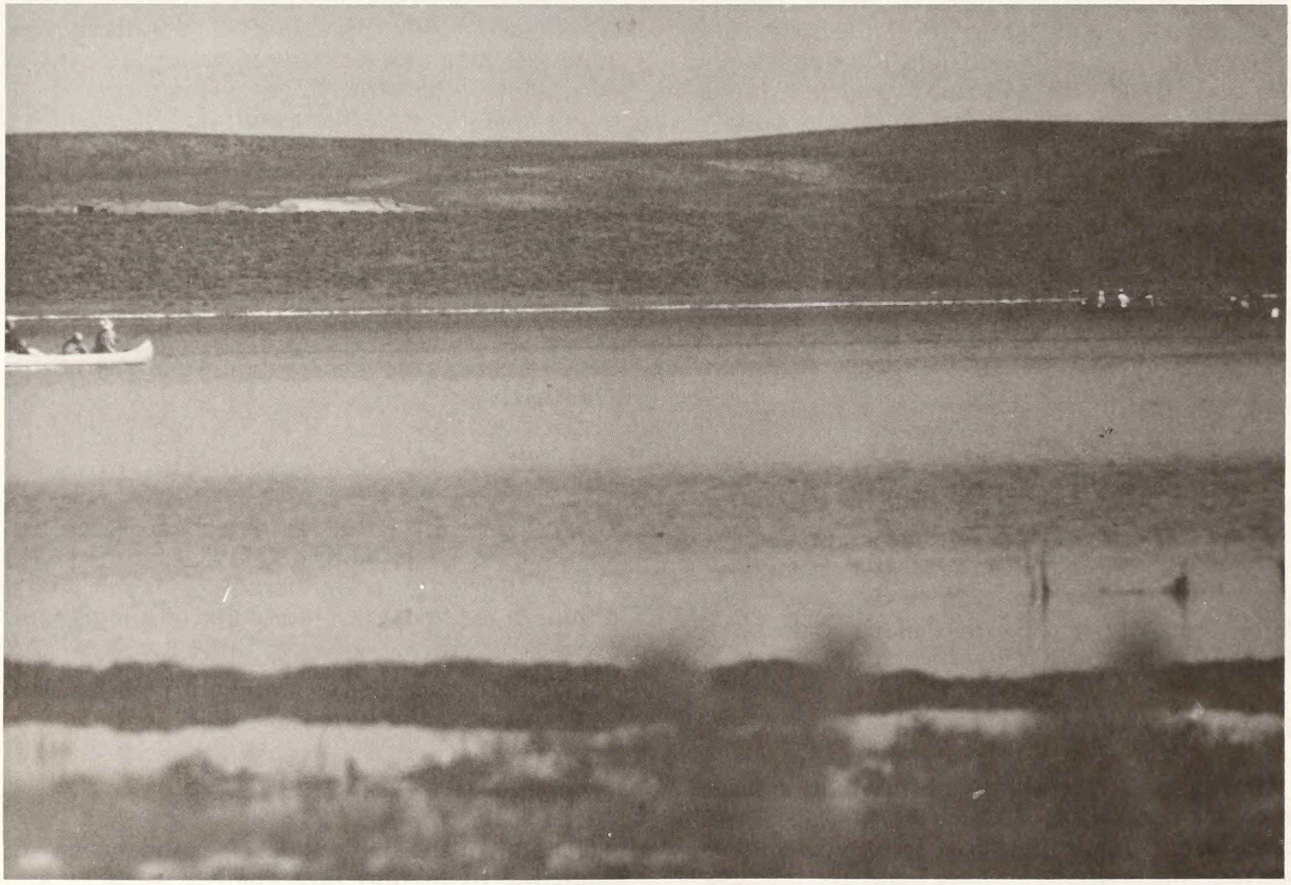
No specific management actions are prescribed for soil, water, and air. Decisions that protect surface resources, as shown in appendix C, would apply.

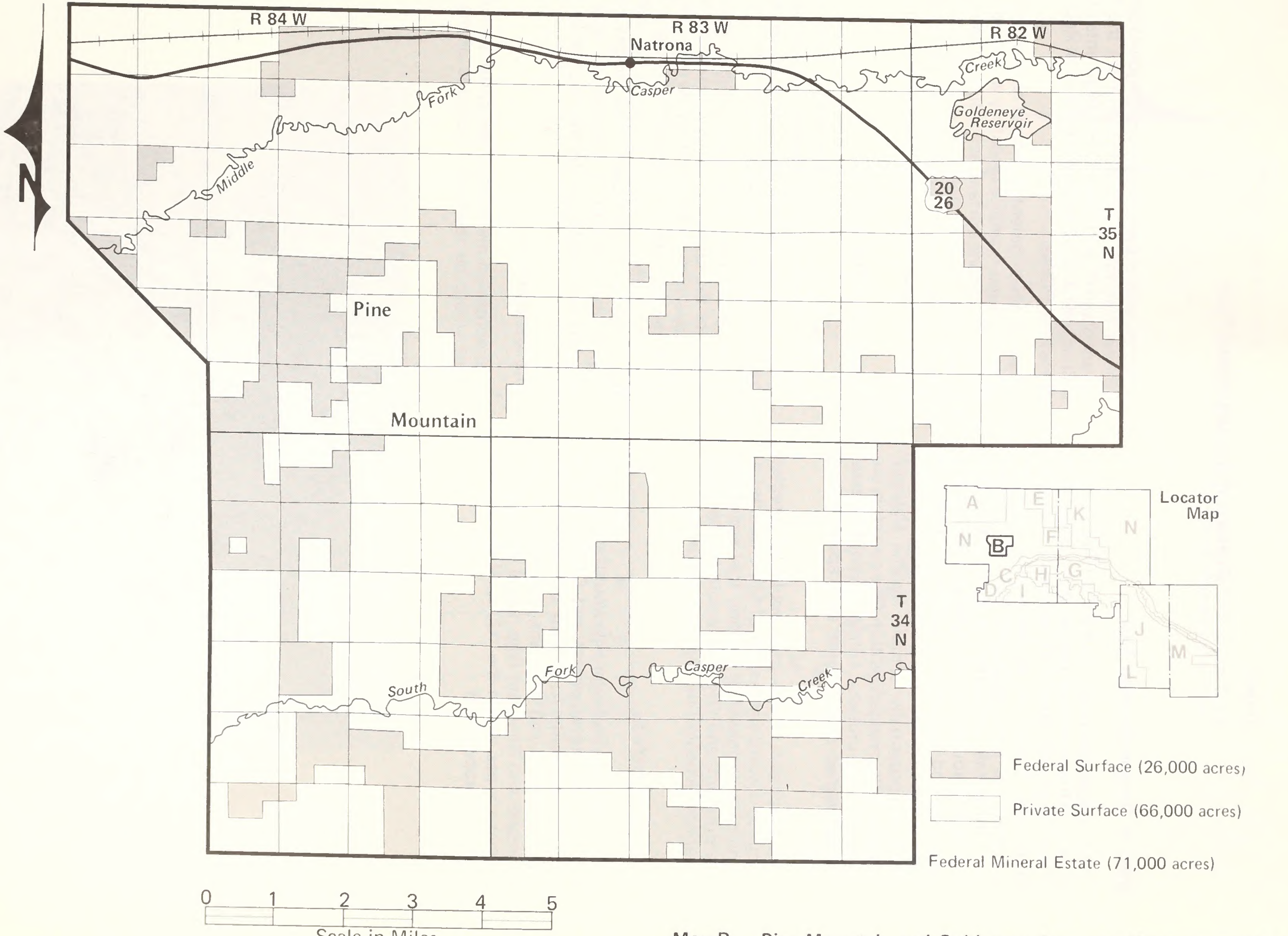
Wildlife

An HMP would be written for the bald eagle areas in Jackson Canyon and Pine Mountain. Oil and gas exploration and development activities would be monitored in relation to sensitive species habitat and effect. Elimination of pine beetle infestation on and around eagle roosting areas would continue. This work would be coordinated closely with the forest management program.

Studies for waterfowl nesting and productivity would be initiated for Goldeneye Reservoir. We would coordinate placement of pedestrian trails and other facilities with the landonwer involved and WGFD. Additional coordination and assistance would be provided to the WGFD for enhancement of a quality fishery and improvement of general wildlife habitat in the area.

Overall monitoring of critical antelope winter range would be initiated. Spring and reservoir development for wildlife has been identified on the Cummings and Irvine Brothers allotments.





Map B Pine Mountain and Goldeneye Resource Management Unit

RMU 3: Oregon-Mormon Trail

The Oregon-Mormon Trail RMU (RMU 3) is a linear unit that encompasses lands on either side of the Oregon-Mormon trail, generally ½ mile on either side. Therefore, acreages have not been compiled. No finite boundary has been drawn along the border of the trail on the unit map. The dominant resource values of RMU 3 are historic resources and recreation resources. Of the 29 miles of trail corridors that cross BLM surface, 2 ¼ miles are potentially eligible for the National Register. Other resources along the corridors are minerals. That unit also contains wildlife habitat for bald eagles, sage grouse, and raptor nesting areas.

Management in this unit would be directed primarily toward protection of the character of significant remnants of historic trail segments. Interpretation and ORV use would be managed for enhancement of the cultural resources.

Cultural Resources

The following trail segments would be protected from surface development and ORV use: Fort Laramie segments A, B, and old Bedlam; the Ryan/Prospect Hill segment; the Horse Creek segment; and Emigrant Gap. Legal descriptions of these areas are in the "Cultural Resources" section of appendix B.

As indicated in the forthcoming Oregon-Mormon Pioneer National Historic Trail RAMP, the Fort Laramie and Ryan/Prospect Hill segments of the trail would be nominated to the National Register of Historic Places.

Before development of federal minerals could begin, cultural resource inventory would be conducted on federal surface according to standard procedures. Existing policy on cultural resource inventory would be followed with regard to development of federal minerals under private surface.

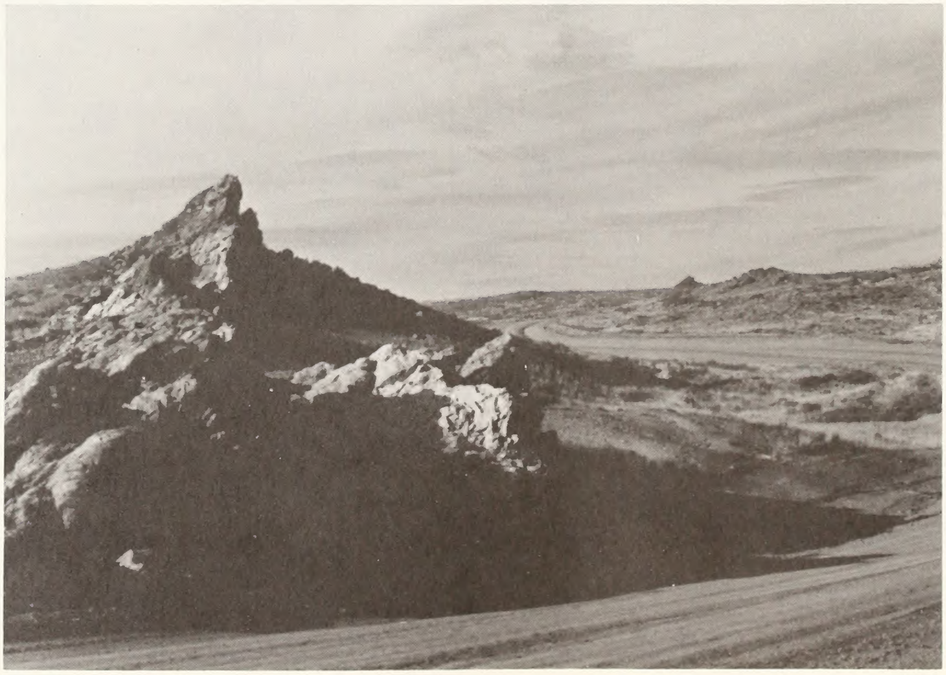
Energy and Minerals

There are extensive mining claims in the area. Mineral development in Western Natrona County along the trail would be monitored to avoid destruction of any important segments.

The potential for oil and gas along most of the length of the Oregon Trail is considered to be high. Development is occurring now in the vicinity of Willow Springs. Portions of the Oregon Trail that are known to contain significant cultural resources have been leased for oil and gas, but no surface development is allowed, so that site integrity is protected on the trail segments.

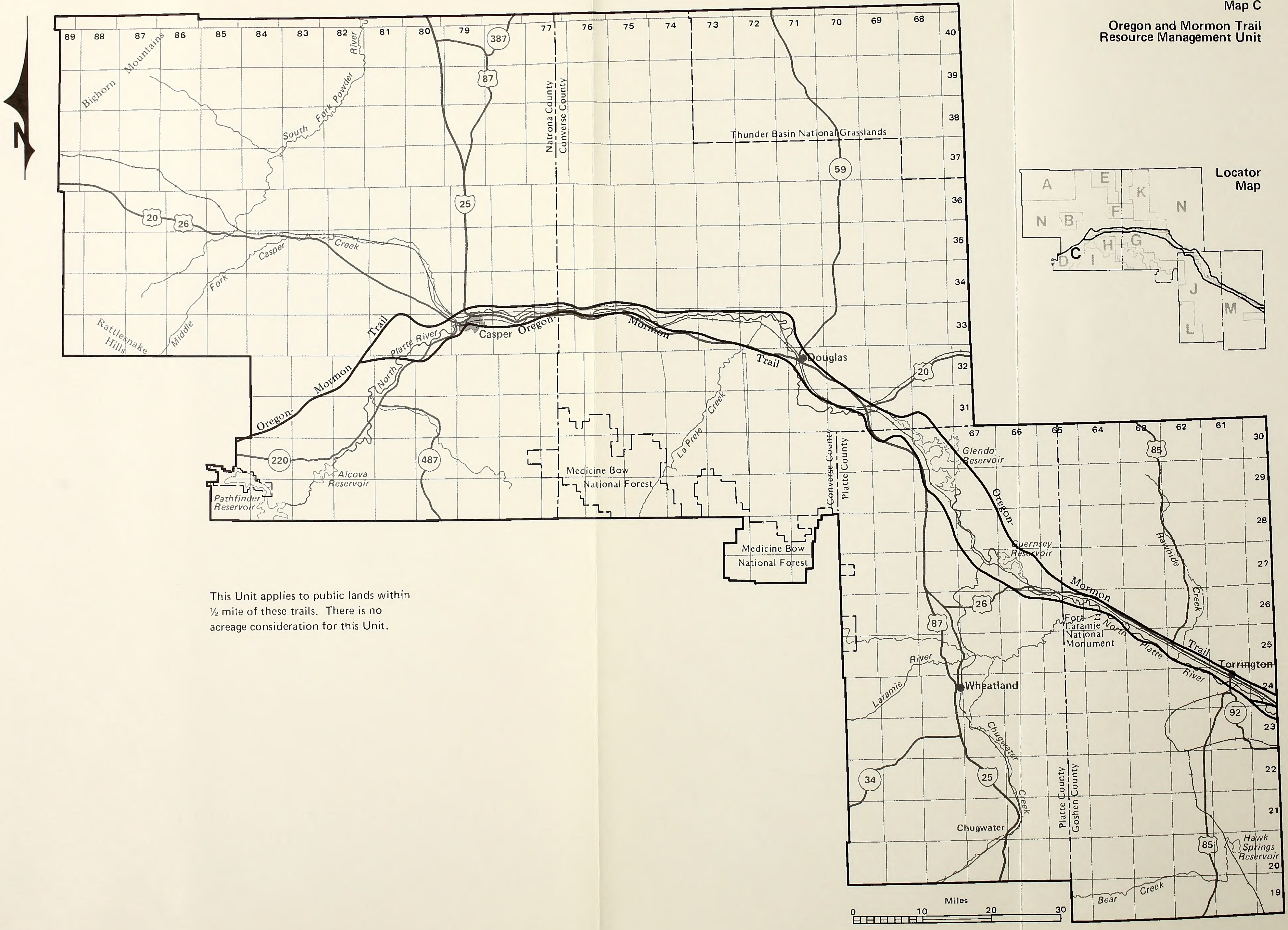
Fire Management

Suppression methods under current management would be retained. Locations of the trail



Map C

Oregon and Mormon Trail Resource Management Unit



This Unit applies to public lands within ½ mile of these trails. There is no acreage consideration for this Unit.

system would be plotted so that they could be incorporated into the normal fire year plan.

Some areas along the Oregon Trail from Casper to the west edge of the resource area would be in a limited suppression zone. The rest of the trail will be retained in full suppression according to standard procedure. No priority would be placed on cultural resources except that they would be protected from adverse suppression actions.

Surface-disturbing suppression actions such as use of heavy equipment for blading vegetation or fireline construction would be prohibited on the three segments described earlier. Indiscriminate ORV travel also would be prohibited.

Any cooperative agreement with other federal, state, or county firefighting agencies would stipulate the cultural resource concerns in their respective areas.

Forest Management

There are no forest resources in this unit.

Grazing Management

The Oregon Trail runs through one "I" category allotment and two "M" category allotments. The primary allotment that would be affected by actions to protect the Oregon Trail is the Rattlesnake Grazing Association.

Lands

No disposal actions would be contemplated in the important segments identified.

Recreation Management

The purpose of establishment of national historic trails is the identification and protection of the historic route and its historic remnants and artifacts for public use and enjoyment. The potential for public outdoor recreation or historical interest is based on interpretation and appreciation of the trail's history. Site-specific decisions related to the management of the recreational and historical resources of the Oregon-Mormon Trail in the PRRA will be provided by the statewide Oregon-Mormon Pioneer National Historic Trail RAMP, which is to be completed in fall 1984.

We would continue to administer special recreation use permits for travel on the trail case by case, coordinating such permission with involved landowners. Three segments (696 acres) of the trail would be closed to ORV use yearlong to protect cultural resource values.

Overall recreation management will emphasize monitoring, use supervision, and enforcement to resolve conflicts between users and landowners. Recreation services would be limited to interpretive brochures, maps, signs, support facilities, and maintenance. No significant facility development is planned.

Soil, Water, and Air

No surface development would be permitted on the trail segments. This provision would prevent accelerated erosion on existing trail routes.

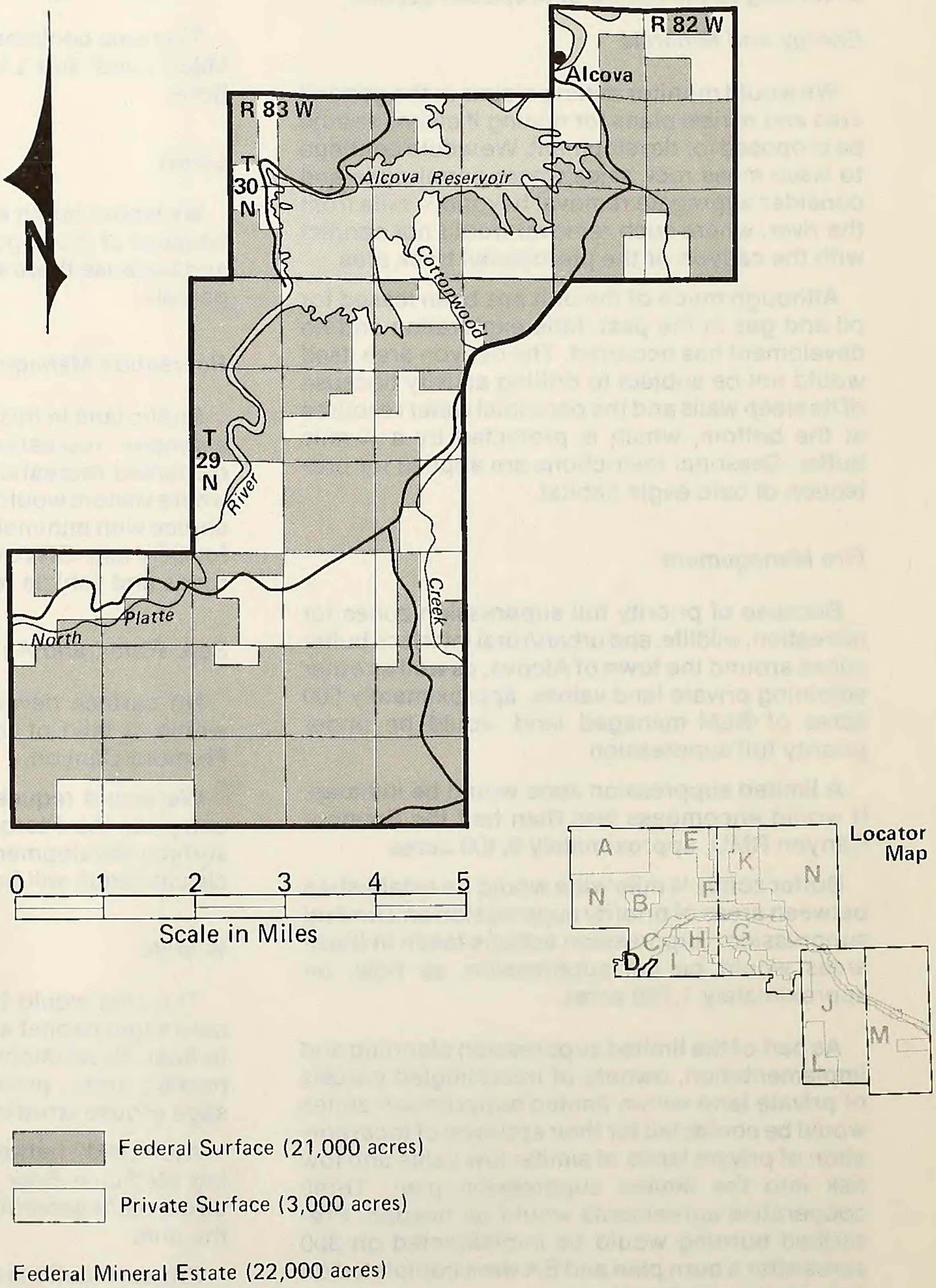
Wildlife

An HMP would be written for bald eagle areas. We also would monitor use areas and identify any recreation use conflicts. The need for monitoring sage grouse strutting grounds and raptor nesting habitat is critical, particularly along the trail route in western Natrona County.

RMU 4: Fremont Canyon

The Fremont Canyon RMU (RMU 4) comprises 12,000 acres of BLM-administered land, 12,000 acres of state and private lands, and 22,000 acres of federally administered mineral estate. The dominant resource values are prehistoric fossils (Pterodactyl Track ACEC), recreation, and raptor habitat.

The focus of attention for this unit centers on the canyon area itself. Lands surrounding this unique area contain important values for other resources such as minerals, soil, and watershed.



Map D **Fremont Canyon Resource Management Unit**

Preferred Management Plan

Cultural Resources

The intensity of cultural resource management would be low. Inventories and mitigation of surface-disturbing activities would be initiated according to the nature of proposed actions.

Energy and Minerals

We would monitor mining claims in the general area and review plans for mining if claims should be proposed for development. We would continue to issue moss rock sales where permissible and consider aggregate removal beyond ¼ mile from the river, where such removal would not conflict with the canyon or the pterodactyl track area.

Although much of the unit has been leased for oil and gas in the past, little exploration and no develoment has occurred. The canyon area itself would not be subject to drilling activity because of its steep walls and the perennial water resource at the bottom, which is protected by a ¼-mile buffer. Seasonal restrictions are applied for protection of bald eagle habitat.

Fire Management

Because of priority full suppression zones for recreation, wildlife, and urban/rural interface buffer zones around the town of Alcova, as well as other adjoining private land values, approximately 500 acres of BLM-managed land would be under priority full suppression.

A limited suppression zone would be initiated. It would encompass less than half the Fremont Canyon RMU, approximately 9,400 acres.

Buffer zones ¼ mile wide would be established between areas of priority suppression and limited suppression. Suppression actions taken in these areas would be full suppression, as now, on approximately 1,780 acres.

As part of the limited suppression planning and implementation, owners of intermingled parcels of private land within limited suppression zones would be contacted for their approval of incorporation of private lands of similar low value and low risk into the limited suppression plan. Three cooperative agreements would be needed. Prescribed burning would be implemented on 300 acres after a burn plan and EA were completed on one grazing allotment.

Forest Management

There are no forest resources in this unit.

Grazing Management

This area contains two "I" category allotments, Miles Land and Livestock and Stevenson and Sons.

Lands

We would retain all public lands within the unit because of the importance of multiple resources and because there are no isolated or fragmented parcels.

Recreation Management

Public land in this unit would be managed as an extensive recreation management area where dispersed recreation would be encouraged and where visitors would have freedom of recreational choice with minimal regulatory constraint except for ORV use. ORVs would be confined to existing roads and vehicle routes.

Soil, Water, and Air

No surface development would be permitted within ¼ mile of the North Platte River within Fremont Canyon.

We would request a withdrawal from mineral entry for the Pterodactyl Track ACEC, and no surface development would allowed. The C&MU classification will be removed.

Wildlife

The area would be managed for protection of bald eagle habitat and potential peregrine falcon habitat. Restrictions would protect golden eagle nesting areas, prairie falcon nesting areas, and sage grouse strutting grounds.

A joint HMP betwen the PRRA and the neighboring Medicine Bow resource area is planned to direct management and project needs for part of the unit.

Project locations and design would be planned, if needed, for fencing of select riparian areas and for development of springs.

RMU 5: Salt Creek

The Salt Creek RMU (RMU 5) comprises 91,000 acres of BLM-administered surface and 104,000 acres of state and private lands. Another 9,520 acres fall within Naval Petroleum Reserve No. 3. There are 205,920 acres of federal mineral estate. The dominant resource values are oil and gas and historic resources. Other important resource values are grazing and soil and water resources.

Management would focus on mineral development, special management attention for the Salt Creek ACEC, fire management planning, protection of cultural resources in connection with historic significance of oil field develoment, and continued lands and realty support work in connection with R&PPs, energy, and non-energy related rights-of-way.

Cultural Resources

The primary cultural resource activities would be inventory and evaluation of potentially significant historic oil and gas sites in the unit. Because of the intensive oil field development and production, close coordination with field operators would be needed relative to any nomination of historic sites and any interpretive or protective actions for those sites.

We would inventory and evaluate the following historic oil and gas sites for National Register eligibility by 1987: Salt Creek, Shannon, Eclipse Camp, Hanly and Bird Camp, Northwestern Camp, IBA Camp, Franco Camp, South Camp, North Camp, Lavaic, Teapot, and Snyder. If warranted by inventory, we would establish Salt Creek Oil Field as a Historic District. This would allow continued use of the field for oil and gas development and nomination of the district to the National Register of Historic Places. Interpretive signs and facilities would be developed as appropriate with the cooperation of oil and gas operators.

Before development of federal minerals could begin, cultural resource inventory would be conducted on federal surface according to standard procedures. Existing policy on cultural resource inventory would be followed with regard to development of federal minerals under private surface.

Energy and Minerals

Mining claims exist in 24 sections. The potential for bentonite exploration and mining is confined to the southwest portion of the unit. Few or no sales of sand and gravel or moss rock are anticipated.

Intensive oil and gas development and production has occurred in this area since the 1890s. Drilling and production will continue. A major part of the management direction for this area would be continued emphasis on implementation of the Salt Creek ACEC plan.

Special field studies are in progress to determine effective means of reclamation and rehabilitation of disturbed areas. These studies would continue, with annual reports being prepared. Projects would be monitored so that rehabilitation practices can be improved.

Fire Management

Four priority full suppression zones would incorporate both oil and gas resources and urban/rural interfaces around Midwest and Edgerton. Approximately 23,000 acres of BLM surface would be in the priority full suppression zone.

Four limited suppression zones will include 33,120 acres of lowvalue, low risk BLM surface. The remaining 34,500 acres of public land in the RMU would be managed for full suppression according to current procedures.

Cooperative agreements with 11 owners of adjacent land would be pursued for inclusion of intermingled lands into the limited suppression plan.

Forest Management

There are no forest resources in this unit.

Grazing Management

This area contains all or parts of three "I" category allotments and 11 "M" category allotments. Grazing management actions within the Salt Creek ACEC generally would complement the Salt Creek ACEC Management Plan.

Lands

Five R&PPs currently assist community service and expansion for Midwest and Edgerton. As additional needs are identified, BLM leases and rights-of-way will attempt to accommodate community needs.

Approximately 800 acres have been identified for disposal potential, none of which are within the boundaries of the ACEC.

Corridors would be designated for transportation and for rights-of-way for major utilities. One public access route (horse ranch to Thirty-three Mile road) has been identified for easement acquisition.

Recreation Management

The area would be managed as an extensive recreation area where visitors would have freedom of recreational choice with minimal regulatory constraint. Recreation management would emphasize monitoring, use supervision, and enforcement to resolve user conflicts and provide resource protection as necessary. ORVs would be limited to existing roads and vehicle routes.

Soil, Water, and Air

The BLM would actively participate in the implementation of the Salt Creek ACEC Management Plan. Equal emphasis would be placed on the implementation of decisions on priority oil fields identified in the plan. The priority fields are East Teapot, South Salt Creek, Salt Creek, Smokey Gap, Shannon Pool, Sage Spring Creek, and Sherwood Unit.

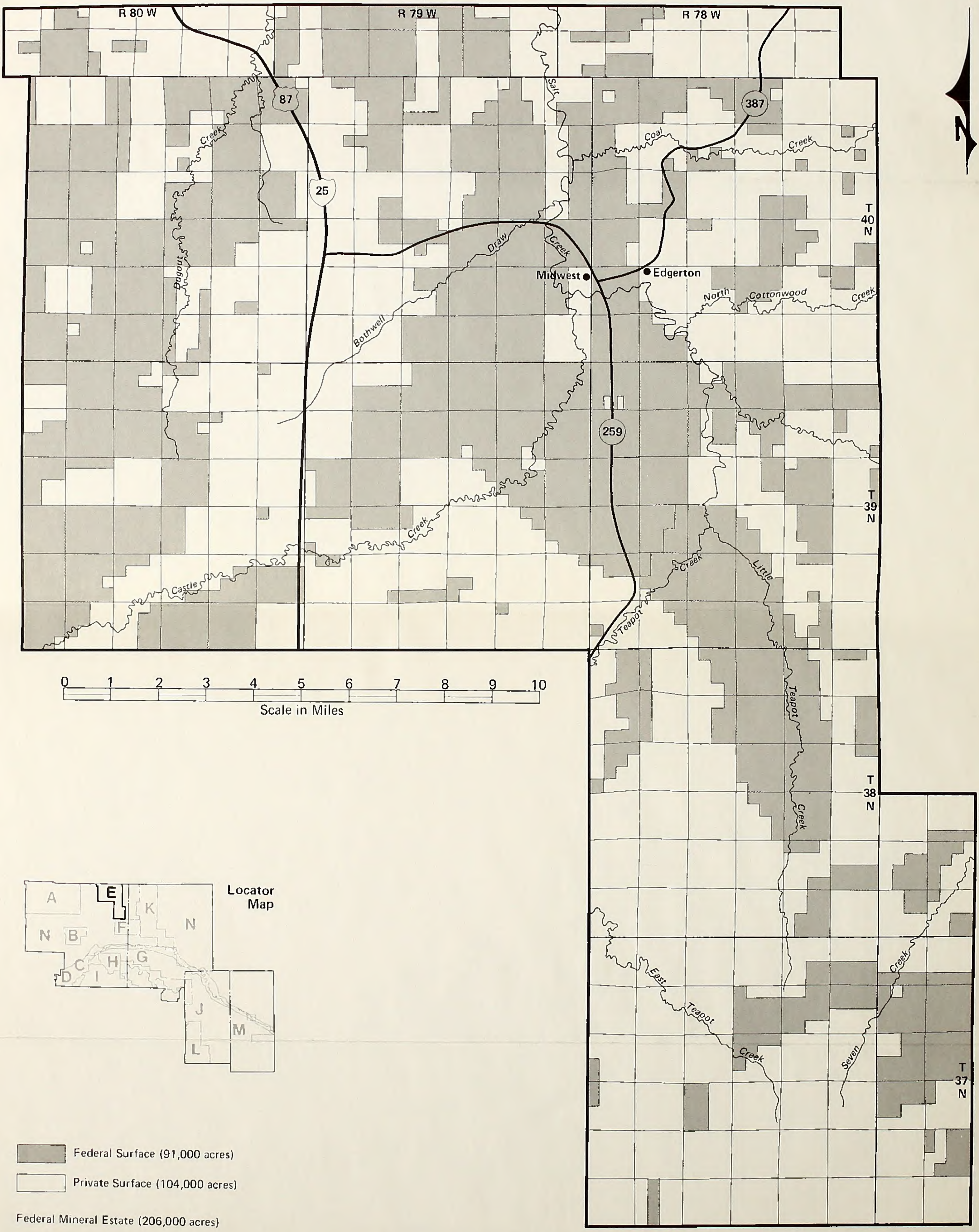
Portions of the following sensitive drainages are within the Salt Creek RMU: Castle Creek, Salt Creek, and Teapot Creek. These drainages, outside the oil fields, would be studied further to determine the need for additional protective measures or for the development and implementation of watershed management plans. On the basis of cost-benefit analysis, the management plans could prescribe watershed manipulation in the form of seedings, livestock manipulation, construction of water spreaders, or construction of water detention and retention structures.

Intermediate and long-term stream monitoring would continue on Salt Creek and Castle Creek. National Pollutant Discharge Elimination System monitoring would continue on point discharges associated with oil fields.

Wildlife

We would monitor raptor nesting and mitigate adverse effects through seasonal or locational stipulations for oil and gas actions where necessary.

Studies would be made of deer and antelope water needs and browse conditions as part of grazing management monitoring. We would determine fencing needs for wetlands and reservoirs. Black-footed ferret searches would be conducted in prairie dog towns threatened by development.



Map E Salt Creek Resource Management Unit

RMU 6: Casper Sand Dunes

The Casper Sand Dunes RMU (RMU 6) comprises 30,000 acres of BLM-administered lands and 47,000 acres of state and private lands. The federally administered mineral estate totals 75,000 acres. The dominant resources are soil, water, and vegetation on fragile soils and dunes, wildlife habitat, for antelope and deer herds, and recreation resources.

Cultural Resources

A low intensity of cultural resource management would be practiced. We would conduct inventories and mitigate impacts or cultural resources from surface-disturbing activities where needed.

Energy and Minerals

Virtually no mining claims exist within the unit, and there is little development potential for sand and gravel or for solid minerals.

The southern portion of the unit was developed for oil and gas in the 1930s and 1940s in the Cole Creek field. Production has been decreasing. Some exploration has occurred since then; however, there has been little new development and production. Management would emphasize the application of decisions for soil, water, and air and for wildlife from appendix B as they apply.

Fire Management

Priority suppression zones would include 300 acres near the Cole Creek oil field. Three limited suppression zones would cover 23,920 acres. Cooperative agreements with six owners of adjacent land would be pursued for inclusion of adjoining intermingled ownership lands into the limited suppression plan.

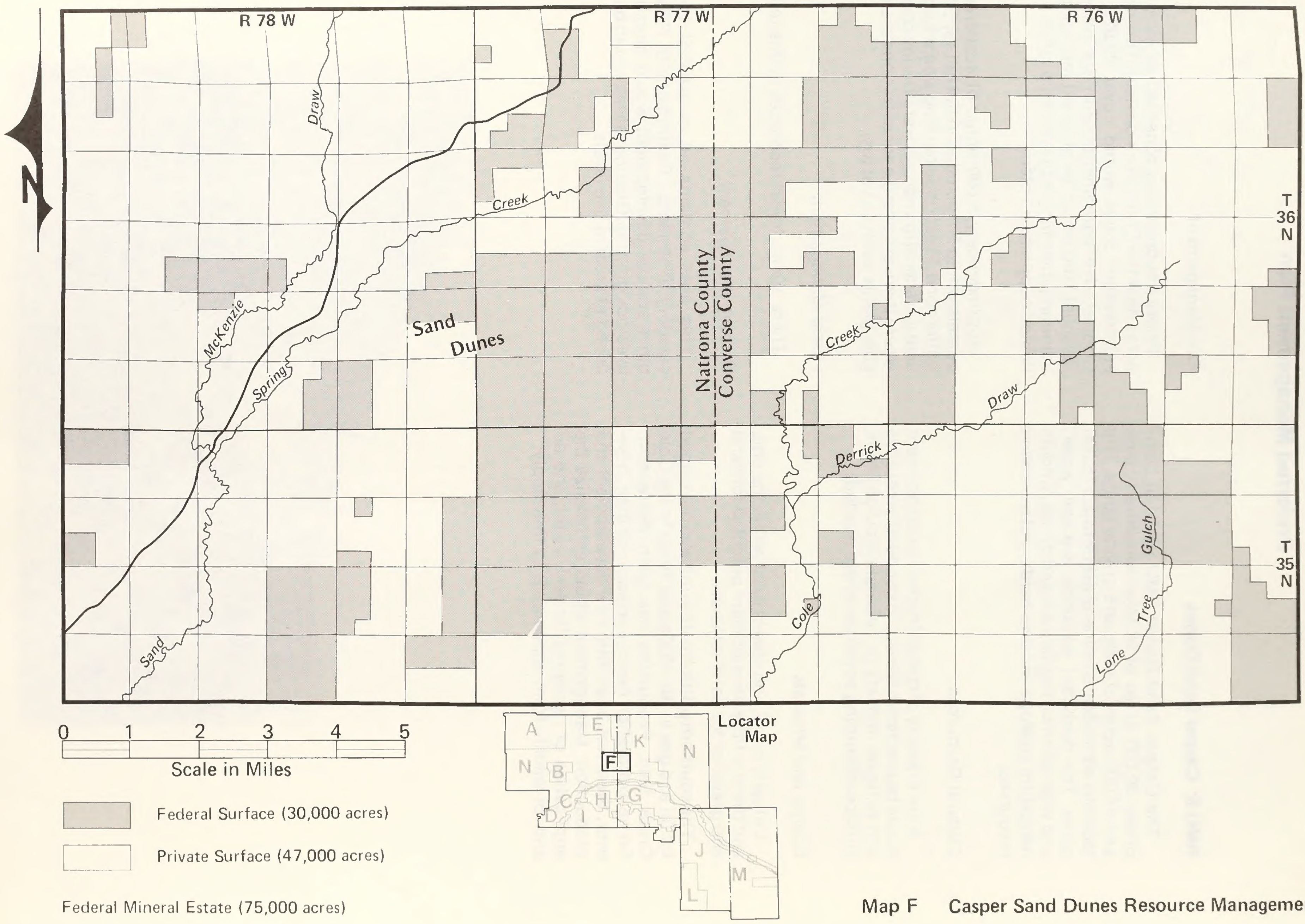
Approximately 5,600 acres of scattered BLM parcels would be included in the full suppression buffer zone. Prescribed burning would be considered,if practical,to improve overall range conditions where there are heavy concentrations of undesirable plants such as cactus.

Forest Management

There are no forest resources in this unit.

Grazing Management

This area contains all or part of five "M" category allotments. Restrictions of ORVs and other surface development would complement livestock grazing. Grazing leases would be maintained at present use levels.



Map F Casper Sand Dunes Resource Management Unit

Preferred Management Plan

Lands

Approximately 1,040 acres have been identified for possible disposal, none of which are within the sand dunes area.

Recreation Management

Recreation management would be supportive of watershed management. This unit would be managed as an extensive recreation management area where dispersed recreation would be encouraged in areas where soil and watershed values permit.

ORV designations would limit travel to designated roads and vehicle routes on public land, except during the fall hunting season, when travel would be permitted on existing roads and vehicle routes. This designation would involve 13,560 acres of contiguous public land.

There is no legal public access; access is obtained through landowner permission only. We would pursue access only through a cooperative landowner agreement should public demand be evident.

Recreation management and maintenance would be minimal, with emphasis on monitoring, use supervision, and enforcement to resolve user conflicts and provide resource protection.

Soil, Water, and Air

The unit would be studied and a soil/watershed management plan developed to address the sensitive and fragile area. Oil and gas leases would be considered as information regarding watershed protection measures becomes available.

Wildlife

As part of the soil and watershed plan, we would initiate studies of wetlands to determine water needs for wildlife and livestock. We would initiate a wildlife inventory to determine species and diversity in this habitat as needed, because this type of habitat is rare in the PRRA.

Prairie dog towns would be monitored for ferrets and burrowing owls as necessary.

RMU 7: North Platte River

The North Platte River RMU (RMU 7) is a linear unit comprising 4,600 acres of BLM-administered land. The dominant resources for management are wildlife and recreation. Other important values in the unit are oil and gas and the potential along the river for salable minerals.

Management in this unit would focus on wildlife HMPs for bald eagles along the North Platte River and for riparian habitat in the Rawhide area. A RAMP would be prepared for a special recreation management area along the river. Included in the plan would be seven canoe trail sites west of Casper and ten parcels fronting the river east of Casper. We would pursue acquisition of land west of Casper through exchange. Part of the unit would continue to be withdrawn from locatable minerals activity.

Cultural Resources

Low intensity management would practiced for cultural resources. We would conduct inventories and mitigate adverse effects on cultural resources where needed.

Energy and Minerals

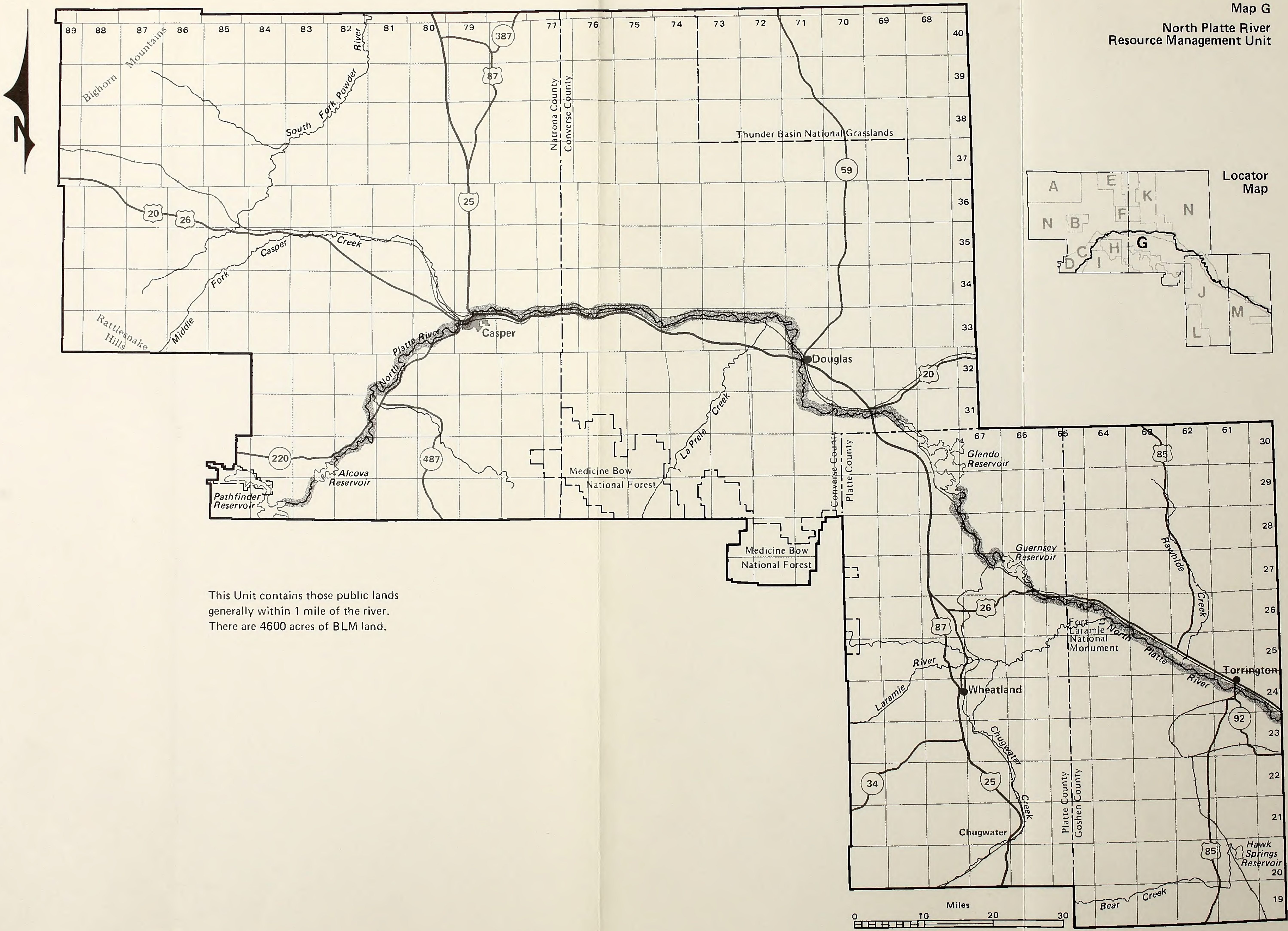
We would continue to protect lands for ¼ mile on each side of the North Platte River to protect limited parcel of public land and sensitive resources.

Oil and gas potential is considered to be high along most of the river's length in the PRRA. A small oil field is operational west of Casper in the vicinity of Washout Creek. The Big Muddy oil field between Casper and Glenrock is in a tertiary recovery phase.

Most of the area along the North Platte River beyond the ¼ mile buffer has been leased for oil and gas activity.

Map G

North Platte River Resource Management Unit



This Unit contains those public lands generally within 1 mile of the river. There are 4600 acres of BLM land.

Preferred Management Plan

Fire Management

Priority full suppression would be practiced on seven Trappers Route landings and at Bessemer Bend. These special recreation management areas along the river between Alcova and Casper cover about 200 acres. Ten other existing sites that have no facilities would continue to be included in the adjacent full suppression zone.

Forest Management

There are no forest resources in this unit.

Grazing Management

Three "I" category allotments border the North Platte River. There are no proposals at this time that would restrict livestock grazing. Grazing would continue to be managed as it is now.

Lands

Lands that have river frontage would not be disposed of except for possible R&PP leases and patents on parcels east of Casper. Acquisition of land along the river by exchange would be desirable to improve management and promote public access to recreation resources along the river west of Casper.

The withdrawal from mineral entry would be continued. In addition, power companies that use an existing corridor for a power line along the river west of Casper plan to remove that line. Once the line is removed, that power line corridor would be eliminated and no rights-of-way would be allowed.

Recreation Management

Approximately 4,600 acres of public land would be intensively managed as a special recreation management area. We would develop prescriptions for management by characterizing recreation opportunities in terms of setting, activity, and experience opportunities. Areas included in the intensive management would be seven Trappers Route Canoe Trail sites, Bessemer Bend Historic Site, Emigrant Gap between Alcova and Casper, and ten riverfront parcels of public land between Casper and the Wyoming-Nebraska state line.

ORV use is limited to designated roads and vehicle routes for 2,990 acres of public land between Alcova and Casper. All roads will be designated.

Facility development would be limited to support facilities for recreational activities, visitor safety, and resource protection. Improvements planned are upgraded access roads, desginated parking and camping areas, picnic tables, trash cans, vault latrines, informational signs, loading/landing sites, and boundary markers.

Cooperative agreements with private landowners would be sought to provide for BLM management of land during the peak recreation season only. One site identified is the private land between Bessemer Bend bridge and Bessemer Bend Historic Site.

Soil, Water, and Air

No surface development would be permitted on BLM-administered surface within ¼ mile of the North Platte River. The restriction would not apply to recreation facilities. No extraction of salable minerals or oil and gas development would be permitted on federal minerals within ¼ mile of the North Platte River.

Wildlife

Wildlife management would focus on development of a bald eagle HMP and monitoring use and feeding areas along the river. Raptor nesting areas would be monitored.

RMU 8: Casper Mountain-Muddy Mountain-Jackson Canyon

RMU 8 encompasses 31,000 acres of BLM-administered land, 70,000 acres of state and private land, and 70,000 acres of federal mineral estate.

This area has a full range of high value resources with various management needs. The principal values are wildlife, forestry, recreation, lands and realty, and grazing.

Wildlife management actions would protect significant bald eagle and golden eagle roosts and implement beetle control on trees in and around eagle roosting areas. Critical winter elk range also would be protected.

We would manage for vegetation species diversity in concert with forestry objectives. An active forestry management program would be carried out for this unit with a planned harvest of 700 mbf/per year for about five years to combat pine beetles.

Recreational facilities include intensively used campgrounds and an environmental education area. The demand for year-round recreation is increasing among local and out-of-state users. There are 13 existing R&PP areas, disposal potential for high value land on 520 acres, and access easement needs. There ispotential for exchanges to increase the environmental education area and critical elk winter range.

The Casper Mountain Steering Committee is working with the Natrona County Planning Commission in preparation of a land use plan for private land on Casper Mountain. That plan, when completed, can be coordinated with the BLM's resource management plan.

Cultural Resources

The intensity of management for cultural resources would be low, with the principal actions tied to inventory and mitigation, if required.

Energy and Minerals

One flagstone pit (Mosteller) is available and would continue to operate. Mineral activities would be considered case by case in concert with recreation and wildlife plans and decisions.

No surface development would be permitted in the Jackson Canyon portion of this unit for the protection of bald eagle winter habitat and roosting areas.

No surface development would be permitted in the Muddy Mountain EEA and its associated forest management area are so that the unit's integrity as an environmental education area can be maintained. The restriction would not apply to forest or recreation management practices.

The eastern portion of this unit contains critical elk winter range, city and county parks, and R&PP grants that have been leased for oil and gas subject to a "no surface occupancy" restriction.

In portions of the RMU that have been leased with surface development permitted, such surface development is allowed only from June 1 to November 30. These areas are subject to the decisions that constrain development listed under "Soils, Water, and Air" and "Wildlife" in appendix B.

Fire Management

Fire management would have a high priority on Casper Mountain because of the numerous homesites, important recreation and wildlife resources, and high fire risk. We would pursue cooperative agreements with private landowners and other fire and land management agencies so that limited suppression and priority full suppression areas can be established.

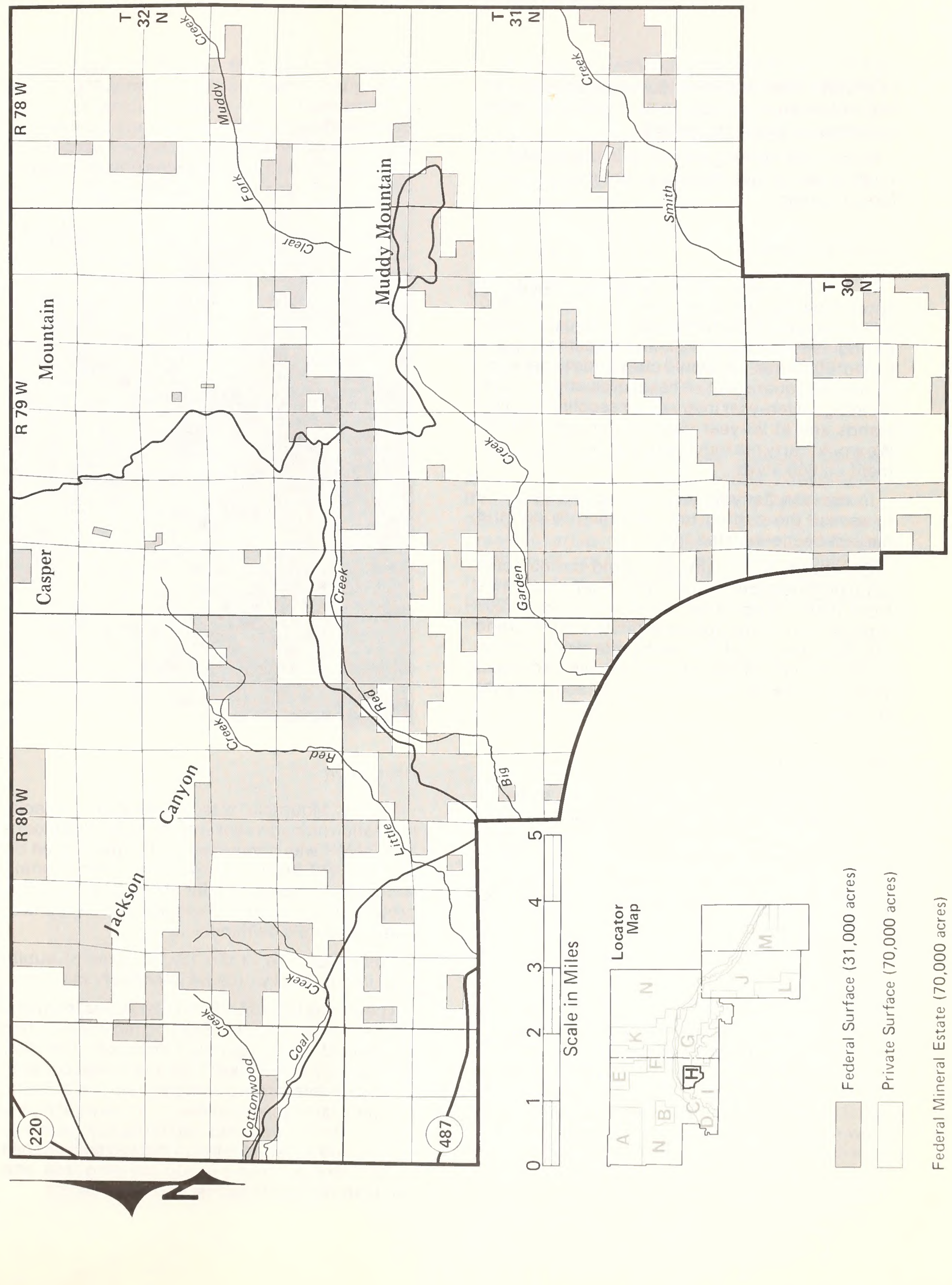
Priority full suppression zones would be established for forestry, 3,800 acres; wildlife, 2,160 acres; and recreation, 1,200 acres. The urban/rural interface near the city of Casper and other adjoining private land values would require 1,200 acres of scattered BLM parcels to be managed for priority fire suppression.

A limited suppression zone would encompass about 12,000 acres in the Casper Mountain-Muddy Mountain RMU.

Buffer zones ¼ mile wide would be established between areas of priority suppression and limited suppression. Full suppression actions would be taken in these areas, which would cover approximately 1,200 acres.

We would incorporate additional fire suppression constraints to protect existing critical elk winter range, bald eagle roost areas, and cultural resources. These constraints would become part of the normal fire year plan and the operational plan for priority full suppression.

As part of the limited suppression planning and implementation, owners of intermingled parcels of land within limited suppression zones would be contacted for their approval of incorporation



Map H Casper, Muddy Mountain, and Jackson Canyon Resource Management Unit of private lands of similar low value and low risk into the limited suppression plan. Eight cooperative agreements would be needed.

Prescribed burning would be implemented on 1,100 acres on four grazing allotments and three forestry areas.

Forest Management

In the Little Red Creek area, we would cut approximately 100 acres per year, harvest 500 mbf per year for approximately three to five years during 1985 through 1990, and selectively cut a total of 800 acres. We would cut stands to between 40 and 60 square feet of basal area and perform thinnings at ten-year intervals for seedling-sapling stands and at 20-year intervals for pole stands. We would carry out mountain pine beetle management on 800 acres.

In Jackson Canyon, we would collect field data to assess the cutting unit and plan to cut and harvest beetle-infested trees.

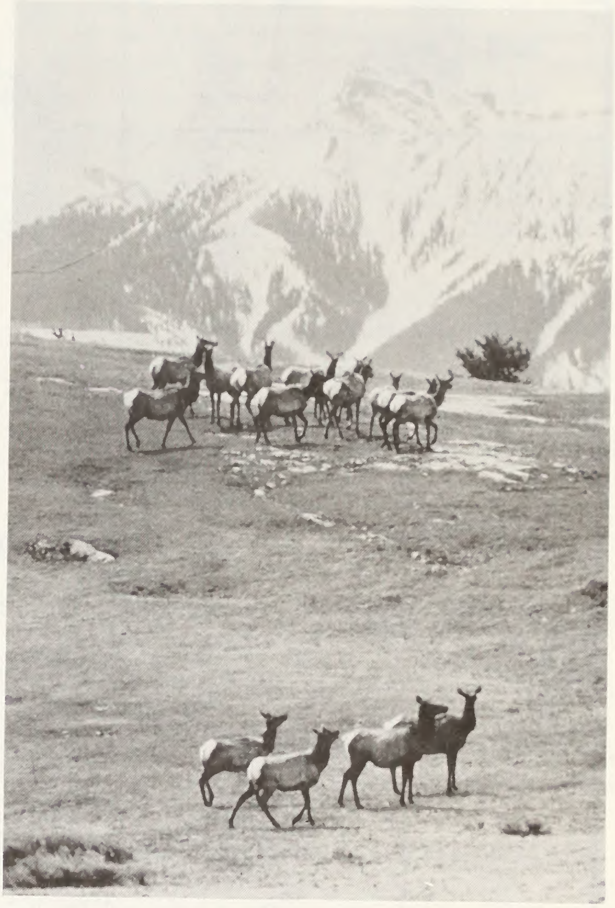
On Muddy Mountain, we would cut 65 acres annually to reduce mountain pine beetle incidence from 1985 through 1990. We would produce 200 mbf per year in fuelwood and posts and poles and thin approximately 400 acres by sale of commercial products over a three-year period. We also would thin 75 acres of seedling-sapling stage stands present.

Grazing Management

This area contains all or part of three "I" allotments and four "M" allotments. Special studies will take place on two "I" allotments, Cheney and Schmitt, to determine livestock-deer conflicts in critical winter ranges and the effects of grazing on water quality in Red Creek and Little Red Creek.

Lands

Approximately 520 acres of land would be considered for disposal. None of the lands are within the recreation management areas, the environmental education area, or critical elk range. Thirteen R&PP leases and patented leases now exist on Casper Mountain. We would process one new request for leasing of 490 acres after receipt of a completed application and operational plan. We would pursue acquisition of one easement at Corral Creek for recreation purposes.



Recreation

Muddy Mountain was designated a special recreation management area, and a Muddy Mountain RAMP was completed and implemented on May 10, 1977. The plan provides detailed planning with specific objectives for visitor use, resource protection, and recreational opportunities consistent with public demand.

Recreation use of the 12,000 acres of public land in this RMU would be intensively managed.

The Muddy Mountain EEA (1,200 acres) contains a 675-acre natural area. Existing facilities are two designated campgrounds, Lodgepole and Rim; two nature trails, Beaver Trail and Forest Ecology Trail; one interpretive ramada; two water wells; two vault latrines; one access road; several picnic tables, and two trailhead parking areas. Improvements to be added: 15 miles of marked snowmobile trails, a day use area, a group camping area, one vault latrine, picnic tables, and trash cans.

Preferred Management Plan

ORV travel on Muddy Mountain Recreation Area (11,370 acres) would be limited to designated roads and vehicle routes. A total of 630 acres of the EEA would be closed to ORV travel (including snowmobile use) year-round. ORV travel in the Jackson Canyon area of the unit would be limited to designated roads and vehicle routes on 3,890 acres.

Recreation management for the remaining public lands in this RMU is considered extensive. Dispersed recreation would be encouraged, and visitors would have freedom of recreational choice with minimal regulatory constraint. Recreation management and maintenance would emphasize monitoring, use supervision, and enforcement to prevent user conflicts and provide resource protection.

Projects to be completed as specified in the Muddy Mountain RAMP are as follows:

Acquisition of easements for 3 miles of roads, ½ mile for walking, 2 ½ miles for cross-country ski trails, and 6 miles for snowmobile trails.

Hiring of a seasonal ranger each summer and fall for enforcement and public information.

Rehabilitation of old roads and other disturbed areas.

Timber thinning in high fire danger and overstocked areas.

Pursuit of exchanges for lands containing critical winter range for elk and lands adjacent to the EEA.

Construction of 8 ½ miles of fence around the EEA (40 inch, 4-strand barbed wire).

Designation of cross-country skiing areas (snowmobile closures).

Continuation of the post and pole sale program in designated area.

Soil, Water, and Air

No intensive management would be required for soil, water, and air in this RMU. The Little Red Creek and Red Creek would be included in the Bates Hole Watershed Plan.

Wildlife

We would finish writing the Jackson Canyon ACEC/HMP, control pine beetle infestations through a more active forest management program, designate bald eagle roosts as priority full suppression areas for wildfire control, evaluate whether or not oil and gas leases should be renewed, and incorporate fire suppression as part of the HMP. We also would install signs and define road closures.

We would monitor deer and elk use of areas in relation to browse conditions to identify any conflicts. Such studies would be coordinated with the WGFD.

RMU 9: Bates Hole

The Bates Hole RMU (RMU 9) comprises 109,000 acres of BLM-administered land, 133,000 acres of state and public lands, and 216,000 acres of federal mineral estate.

This unit contains principal resource values for grazing, wildlife, soils, and watershed. Other values are found in minerals and recreation. Resource management would focus on a well-coordinated approach between grazing, wildlife, and soils and watershed to address proper rangeland management holistically.

This RMU contains nine "I" allotments and nine "M" allotments. Proper use and condition of vegetation to support livestock, antelope and deer, and related watershed concerns would be analyzed. Wildlife management would focus on aspects of wildlife for Bates Creek and Kerfoot Creek, Bolton Creek, and Stinking Creek.

The Bates Hole watershed management plan would focus on sensitive watershed concerns. We would continue gathering data at exsting stream monitoring stations. Fire suppression zones would be established. Prescribed burning plans would be developed as a tool for grazing management on ten allotments.

Cultural Resources

For this unit, management would be at a relatively low level of intensity with activity tied to inventory and mitigation if needed. Proposed actions would be reviewed for impacts on cultural resources, and cultural inventories would be conducted when necessary.

Energy and Minerals

Management intensity would be relatively low for this unit. There are mining claims on 130 sections for uranium, bentonite, and silica sand. There are no large active mining operations in the RMU, although some large uranium mines operate in Carbon County to the south. Moss rock and flagstone are present in small amounts, but demand for material of this type is low. Gravel exists in the area, but demand is low. Two free-use permits have been issued to the Wyoming Highway Department.

Locatable and salable minerals would not require any special management actions. Sales and permits would be handled case by case.

Potential for oil and gas development in this unit ranges from moderate to high. This unit contains several old fields.

Development on this unit is subject to a seasonal restriction from December 30 to June 1 for the protection of critical winter range for antelope and deer. The restriction also protects sensitive watersheds during the time when they are most susceptible to erosion.

This unit is also subject to other decisions that constrain surface development, as described in appendix B.

Fire Management

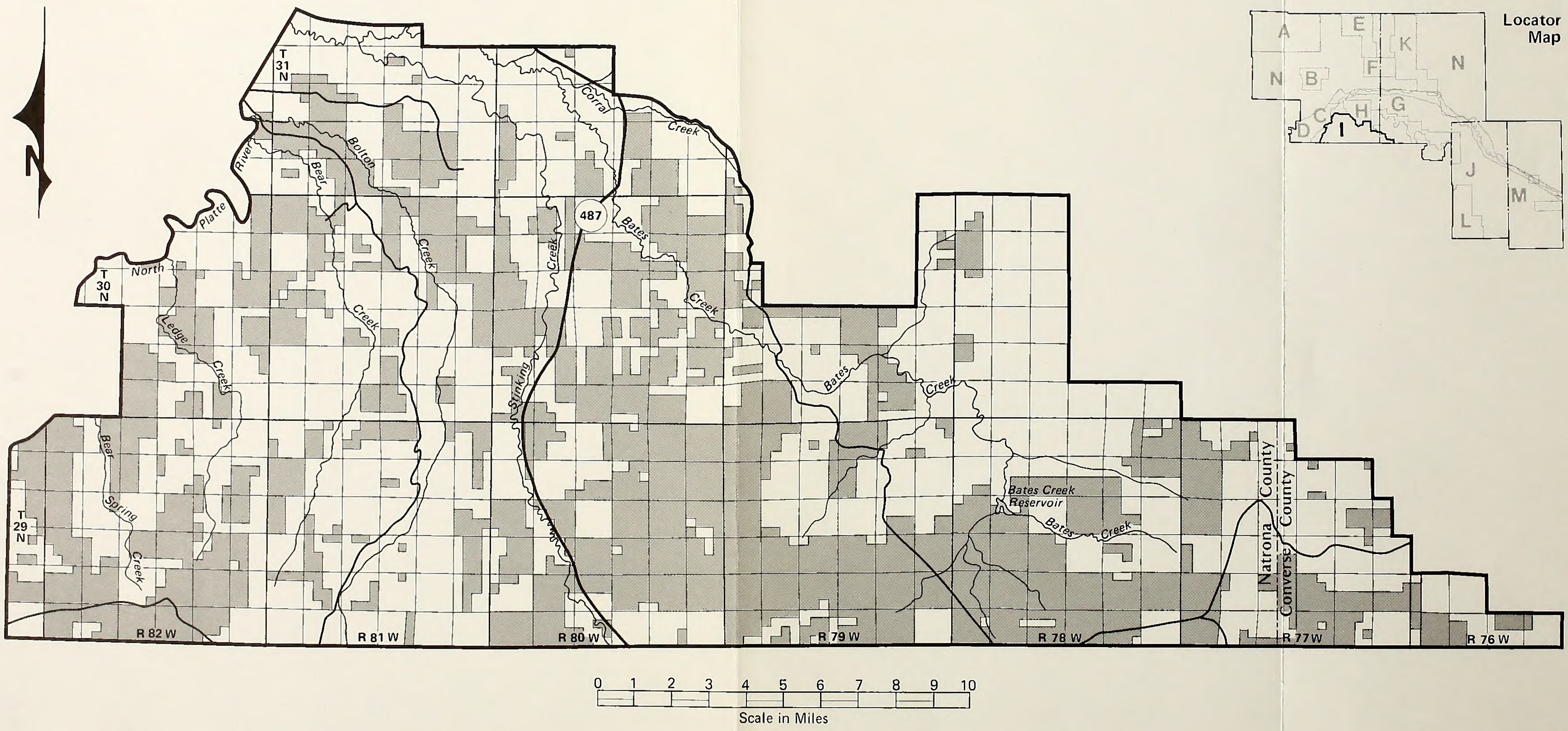
Fire management is a critical support program in this RMU. Priority full suppression zones would be delineated for protection of existing facilities for oil and gas on 700 acres. Adjoining private land values would require management of 6,400 acres of scattered BLM parcels for full fire suppression. A limited supression zone encompassing approximately 100,000 acres of BLM-administered surface would be recommended. Buffer zones ¼ mile wide would be established between areas of priority suppression and limited suppression. Full suppression would be practiced in these areas (approximately 1,800 acres).

As part of the limited suppression planning and implementation, owners of intermingled parcels of land within limited suppression zones would be contacted for their approval of incorporation of private lands of similar low value into the limited suppression plan. This would involve 17 cooperative agreements.

In addition to the 1,600 acres proposed for prescribed burning under current planning, prescribed burning would be implemented on ten grazing allotments and one stock driveway.

Forest Management

This unit contains scattered ponderosa pine or mixed ponderosa pine and juniper. It is tentatively classified as nonproductive forestland. Little or no forest management action is planned. Bates Creek and Sheep Creek areas would be reviewed for fuelwood potential.



▨ Federal Surface (109,000 acres)

☐ Private Surface (133,000 acres)

Federal Mineral Estate (216,000 acres)

Map I **Bates Hole Resource Management Unit**

Preferred Management Plan

Grazing Management

The unit contains nine "I" and nine "M" category allotments. Grazing management would focus on conflicts between livestock and antelope or deer in critical winter ranges. Water quality would be studied intensively. Allotments affected in the first five years would be Bentley, Garrett Ranch, Marton Brothers, Miles Land and Livestock, and Steinle. After the first five years, the studies would be dropped if no conflict was evident, or they would expanded to include both Body ranches, Bates Creek Cattle Co., Schnoor, Cheney, Martin-Haygood, and Milne.

Lands

Approximately 2,040 acres of scattered and isolated tracts have been identified as potentially suitable for disposal. In addition, two easements would be sought for access to Bates Creek and Bates Creek/Kerfoot Creek area.

Recreation Management

No major recreation actions are planned in this unit. It would be managed as an extensive recreation management area where dispersed recreation would encouraged and where visitors would have freedom of recreational choice with minimal regulatory constraint. ORV use would be limited to existing roads and vehicle routes on all public lands. Recreation management would emphasize monitoring, use supervision, and enforcement to resolve user conflicts and provide resource protection.

Soil, Water, and Air

The Bates Hole Management Plan will be developed on the basis of data obtained through the special study as discussed in the preliminary plan.

This RMU contains the following sensitive drainages: Washout Creek, Ledge Creek, Bear

Creek, Bolton Creek, Stinking Creek, Upper Bates Creek, Red Creek, Little Red Creek, and Corral Creek.

On the basis of cost-benefit analysis, the management plan could prescribe watershed manipulation, livestock manipulation, and construction of water spreaders and detention and retention structures.

Intermediate and long-term stream monitoring would continue on Bates Creek, Stinking Creek, Fawn Creek, Upper Bates Creek, Corral Creek, Bolton Creek, Ledge Creek, Washout Creek, Bear Creek, Red Creek, and Little Red Creek.

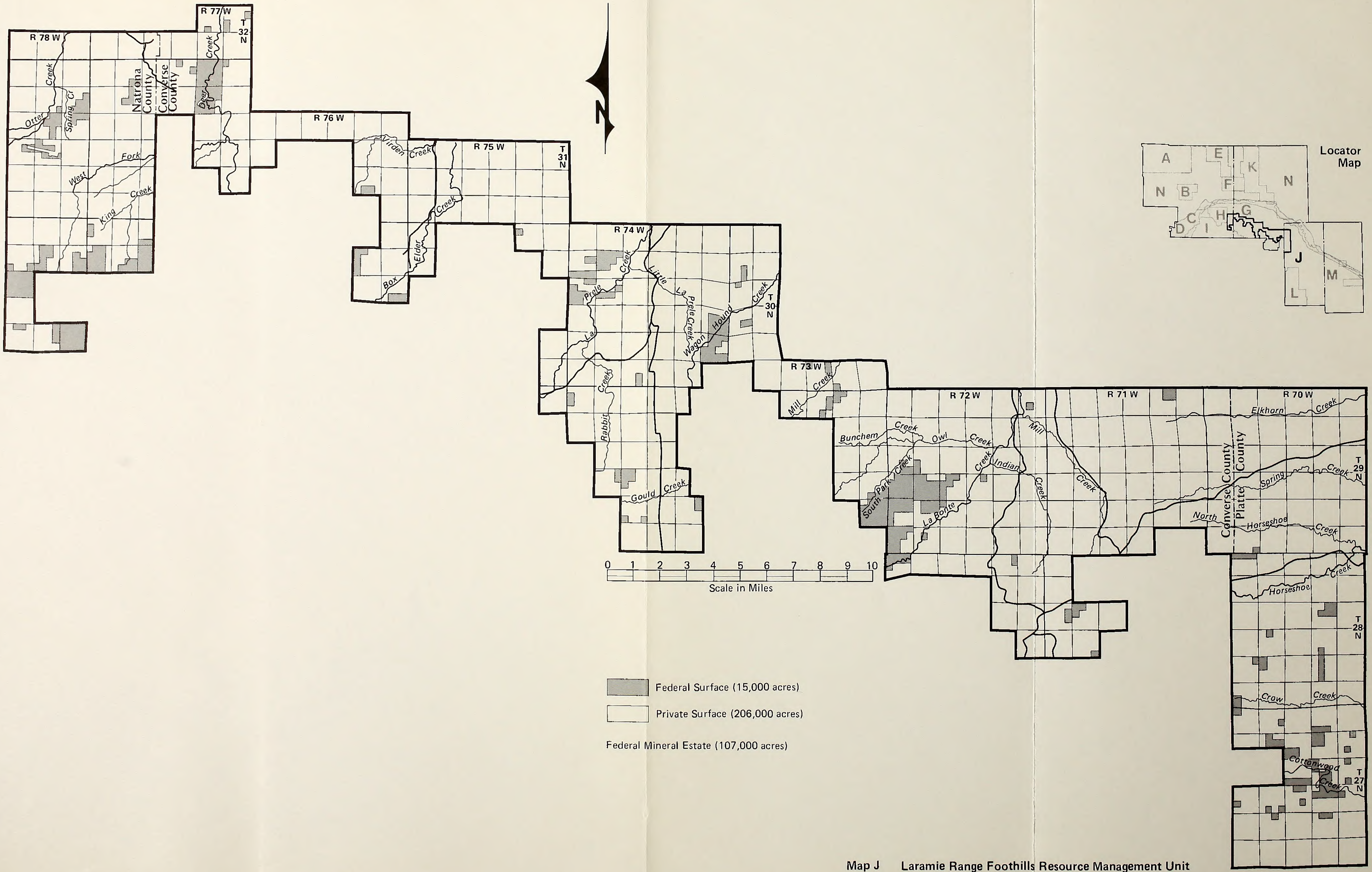
Wildlife

Management actions for wildlife are closely related to grazing and watershed concerns. In this unit, we would focus on habitat management planning and subsequent on-the-ground actions supportive of other resource program objectives. The following HMP planning and action would be required within the unit.

For the Bolton Creek Aquatic HMP, we would construct an exclosure fence for monitoring purposes, manage beaver populations to raise the water table, and monitor wildlife use. For the Stinking Creek Aquatic HMP, we would construct an exclosure fence for monitoring purposes and transplant and manage beaver populations.

Throughout the unit, springs and seep would be developed where needed to support wildlife, and fencing would be done according to specifications in critical antelope areas and riparian areas.

For Bates Creek Reservoir HMP, we would pursue acquisition of an easement of 3 miles, conduct prescribed burns of sagebrush, and monitor sage grouse strutting and winter use. We also would construct islands and monitor waterfowl use. For the Bates Creek Aquatic HMP, we would fence portions of the stream to exclude livestock, obtain a walk-in easement (¼ mile), and establish a primitive parking area and fence it to restrict vehicle traffic. We would also monitor fishing pressure and cooperate with Wyoming Game and Fish Department for stocking fish or stream improvement.



▨ Federal Surface (15,000 acres)

☐ Private Surface (206,000 acres)

Federal Mineral Estate (107,000 acres)

Map J Laramie Range Foothills Resource Management Unit

RMU 10: Laramie Range Foothills

The Laramie Range Foothills RMU (RMU 10) comprises 15,000 acres of BLM-administered land, 206,000 acres of state and private land, and 107,000 acres of federal mineral estate. The primary resource values are forestry, recreation, and wildlife.

Fire management and soil and water would provide important support to other programs. Forest management would involve management planning and harvest from important timber areas. There is good potential for additional hunting and fishing opportunities in the unit if access easement or cooperative agreement could be negotiated on any of five areas (Deer Creek, Wagonhound Gorge, LaPrele Creek, School Section Mountain, and Cottonwood Creek). Wildlife management would be limited because of surface ownership, but there is potential for limited management of elk and deer ranges and fisheries through cooperative agreements with landowners, Wyoming Game and Fish Department, and the Forest Service. All program actions in this unit would emphasize coordination with the Forest Service where adjacent land ownership and cooperative use objectives are present.

Cultural Resources

Management of cultural resources would be at a low level of intensity. The potential for prehistoric sites is moderate to high, and there is moderate potential for historic sites such as stagecoach routes, trails, and homesites.

We would apply survey requirements and stipulations before approving projects to ensure identification of prehistoric and historic resources. These sites would be evaluated for significance under National Register criteria (36 CFR 60.4), and potential impacts would be assessed according to criteria of effects (36 CFR 800.3).

Energy and Minerals

There is a potential for gravel extraction along Cottonwood Creek, Cripple Creek, and Sand Draw. Limestone for construction aggregate exists, and a deposit may be developed in the next ten years. Development would be permitted case by case if its acceptability was indicated by environmental assessment.

Most of this unit is considered to have moderate potential for oil and gas development. Some of the lower elevation areas have high potential. Leasing in this area occurred for the first time in 1982. To date, there has been little exploration and no development.

Development in this unit is subject to a seasonal restriction from November 30 to June 1 for the protection of soils during periods of heavy snowfall and spring rain. The restriction also protects critical deer and elk winter range.

As in all other units, this unit is subject to a surface disturbance restriction on slopes of 25% or greater. Much of this unit has slopes in excess of 25%. All other decisions that constrain surface development, as defined in appendix B, may be applied to leases in this unit.

Fire Management

Priority full suppression zones would be delineated for forestry and wildlife resources on 7,750 acres. All other BLM acreage would be managed for full fire suppression.

Cooperative agreements on exchange of fire suppression responsibilities between the Forest Service and Converse County are in operation. An agreement with Platte County would be sought.

The BLM has responsibility for fire suppression on all federal lands west of the Old Fort Fetterman Road in Converse County; the Forest Service's Laramie Peak Ranger District has suppression responsibility on federal lands east of that road to Interstate 25 in Platte County.

Forest Management

Priority for forestry would be in the Deer Creek range. Management actions would be as follows.

For Deer Creek Range, we would develop a timber management plan, harvest 175 acres per year, and cut 500 mbf annually for three to four years beginning in 1987. We would obtain 9½ miles of temporary easements and construct 1½ miles of new road. We also would determine whether the Forest Service wants to operate a joint fuelwood sales area.

For Negro Hill, we would conduct a forest reconnaissance in the area, collect data, and determine if a timber management plan would be required. We would harvest at least 500 mbf annually beginning in 1991.

For Baldy Ridge, we would conduct a forest reconnaissance of the area, collect data, and determine if the area can be successfully managed.

For Esterbrook, we would conduct a forest reconnaissance of the area, collect data, and determine the resource potential. Management actions would be initiated accordingly.

For Banner Mountain, we would evaluate the available inventory data, then conduct a reconnaissance of the area to determine if the topography will permit any harvest of timber products.

Grazing Management

All grazing allotments within this unit have been categorized in the "C" (custodial) category. Grazing management would be minimal throughout the unit.

Lands

Approximately 3,200 acres have been identified for potential disposal. Access easement or landowner agreements would be required for forestry and recreation in the Deer Creek area to initiate these programs. Cooperative agreements for access also would be required to effect forest or recreation management on other segments of the unit.

Recreation Management

This unit would be managed as an extensive recreation management area where dispersed recreation would be encouraged and where visitors would have freedom of recreational choice with minimal regulatory constraint.

ORV use would be limited to existing roads and vehicle routes on all public lands in the unit.

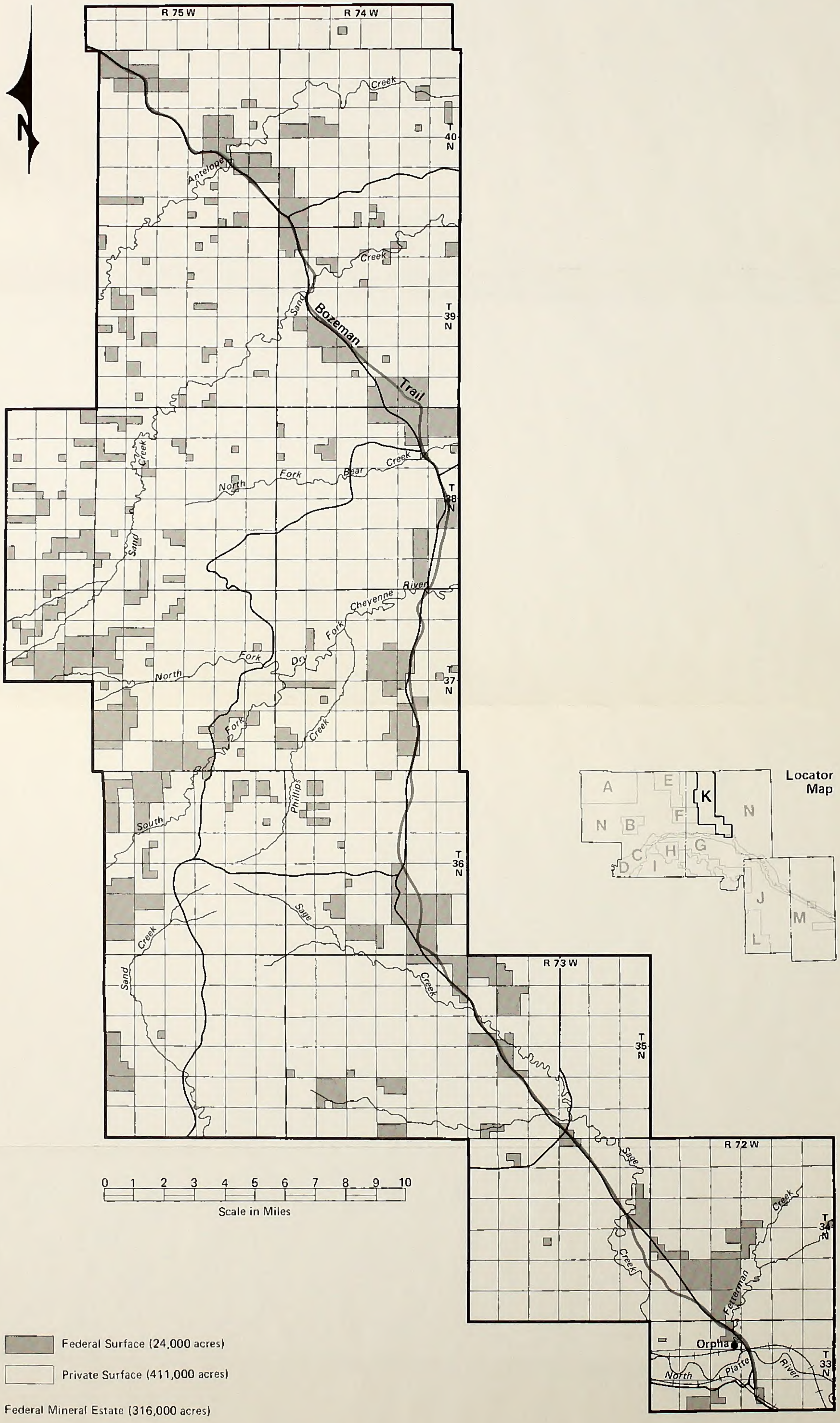
Recreation management and maintenance would emphasize monitoring, use supervision, and enforcement to resolve user conflicts where necessary. Access to isolated tracts of BLM land would be sought only if public demand warranted such actions. Cooperative landowner agreements would be sought to provide seasonal recreational use of BLM lands.

Soil, Water, and Air

Because public land is limited in this unit, actions would be taken as needed to support other programs such as forestry and recreation. Protection of resources would come from the application of land use decisions as described in appendix B when on-the-ground actions were proposed.

Wildlife

We would monitor use on elk ranges, particularly the Baldy Ridge area, and consider studies and cooperative work with the Forest Service and the WGFD for deer winter ranges. We also would work cooperatively with the WGFD for fisheries enhancement. Oil and gas exploration would require case-by-case application of standard stipulations and land use decisions that constrain surface development, as described in appendix B.



Map K Ross Resource Management Unit

RMU 11: Ross

The Ross RMU (RMU 11) comprises 24,000 acres of BLM-administered lands, 411,000 acres of state and private lands, and 316,000 acres of federal mineral estate. Important resource values are cultural resources, minerals, and wildlife. Lands and fire management are important support program components.

Cultural resource management would focus on the historic Bozeman Trail and several stage stations along its route. The trail segments would be protected from surface development. Extensive claims for uranium exist. Wildlife management would center on monitoring and protection of sage grouse strutting areas. Land disposals and rights-of-way would be permitted so long as cultural values would not be jeopardized.

Cultural Resources

Management of cultural resources would protect segments of the Bozeman Trail. Trail segments would be protected through ORV closures and prohibition of surface development. The trail segments to be protected from surface disturbance are Holdup Hollow (40 acres), Stinking Water Gulch (670 acres), and Spring Draw (320 acres). These segments are currently being nominated to the National Register. Legal descriptions of the Bozeman Trail segments are included in appendix B.

Energy and Minerals

About 30,000 acres containing about 555 million tons of federal coal would be available for consideration for future leasing or for exchanges. All PRLAs would be processed. The unit contains the Dave Johnston Power Plant coal mine and the South Antelope coal development.

There are 17 mining claims for uranium on 339 sections. The Bill Smith Uranium Mine and the Southern Powder River Basin Uranium mill are shut down, but they probably will start producing in the future.

This unit is considered to have high potential for oil and gas development. Most, if not all, the unit has been leased for oil and gas, and portions have been heavily developed within the past 15 years.

No surface development is permitted on parcels of this unit containing segments of the Bozeman Trail. The rest of the unit is subject to land use decisions identified in appendix B as they apply.

Soil, Water, and Air

The level of management for this unit would be low except for application of resource protection stipulations on historic segments. Decision that constrain development also would be implemented in the rest of the unit case by case.

Wildlife management would stress continued monitoring of sage grouse strutting grounds and case-by-case implementation of stipulations on rights-of-way and proposed mineral activity to protect important habitat. We would continue to check prairie dog towns for ferrets and burrowing owls since this RMU has high potential for these species.

RMU 12: Muleshoe Flats-Richeau Hills

The Muleshoe Flats-Richeau Hills RMU (RMU 12) comprises 52,000 acres of BLM-administered land, 183,000 acres of state and private land, and 280,000 acres of federal mineral estate.

While ownership in this unit is highly fragmented, the unit has values and management potential for grazing, wildlife, and lands. Grazing use would be monitored in Muleshoe Flats for proper stocking. Range readiness studies would be used to determine proper seasons of use. We would evaluate critical elk, bighorn sheep, and deer winter ranges. Lands actions would be related chiefly to disposal.

Cultural Resources

Management for cultural resources would consist of inventory and mitigation of proposed surface-disturbing activities.

Energy and Minerals

Mining claims exist on 16 sections. One marble quarry (Basin Engineering) is under permit.

Potential for oil and gas development in this unit is considered to be moderate. Much of this unit is under lease, but to date there has been no exploration or development.

Critical elk winter range in this unit is protected by a seasonal restriction from November 1 to April 1. The Laramie River is protected by a buffer zone of 600 feet on either side.

Slopes on much of the unit exceed 25%. Surface development in those areas is prohibited except when the restriction is waived. All other land use decisions as identified in appendix B would apply where appropriate.

Fire Management

No priority full suppression zones would be established in this RMU. Scattered parcels covering 34,000 acres would be retained in full suppression, and cooperative fire suppression agreements would be pursued with Platte County. The Laramie Peak Ranger District of the Medicine Bow National Forest has entered into an agreement on fire suppression with the BLM. The Forest Service will have suppression responsibility north of Slate Creek Road; the BLM will have responsibilities south of the road.

Approximately 17,920 acres would be managed for limited fire suppression.

Two grazing allotments (350 acres) may have potential for the use of prescribed fire for vegetative conversion to improve livestock forage and mule deer habitat.

Cooperative agreements with 18 adjoining landowners would be pursued for inclusion of intermingled lands into the limited suppression plan.

Forest Management

Low level forest management would be planned for this unit. Only one area, Squaw Mountain, has timber potential. No forest management action would be taken in this area except in conjunction with wildlife or recreation objectives.

Grazing Management

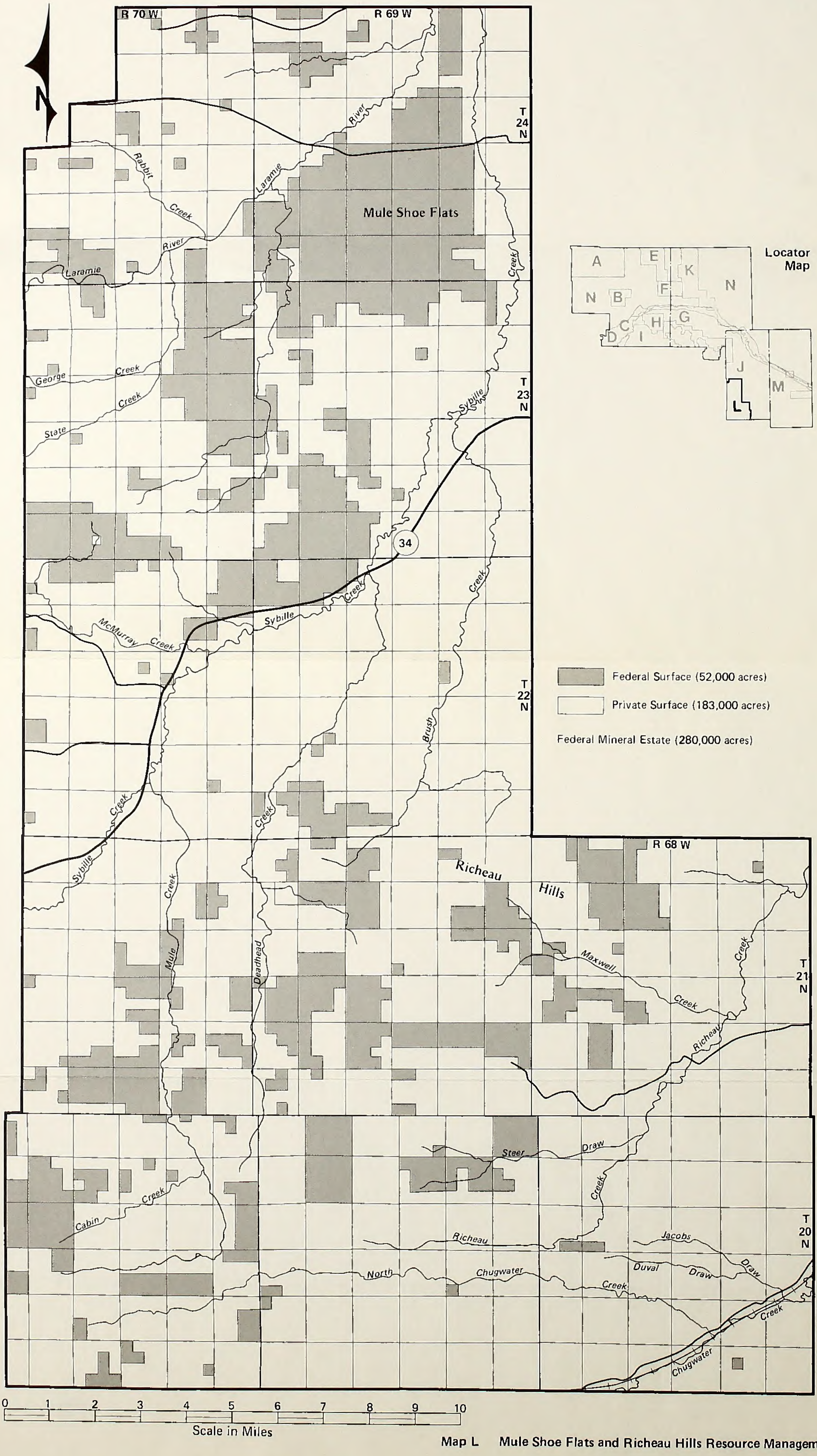
There are two "I" category allotments and three "M" category allotments in this unit. There has been concern about overgrazing on Muleshoe Flats. This area would be monitored for the first five years.

Lands

Approximately 4,960 acres would be considered for disposal. One access easement along the upper Laramie River would be pursued in conjunction with the wildlife program.

Recreation Management

This unit would be managed as an extensive recreation management area where dispersed recreation would be encouraged and where visitors would have freedom of recreational choice with minimal regulatory constraint. ORV use would be limited to existing roads and vehicle routes on all public lands. Recreation management would emphasize monitoring and use supervision to resolve user conflicts if necessary.



Map L Mule Shoe Flats and Richeau Hills Resource Management Unit

Soil, Water, and Air

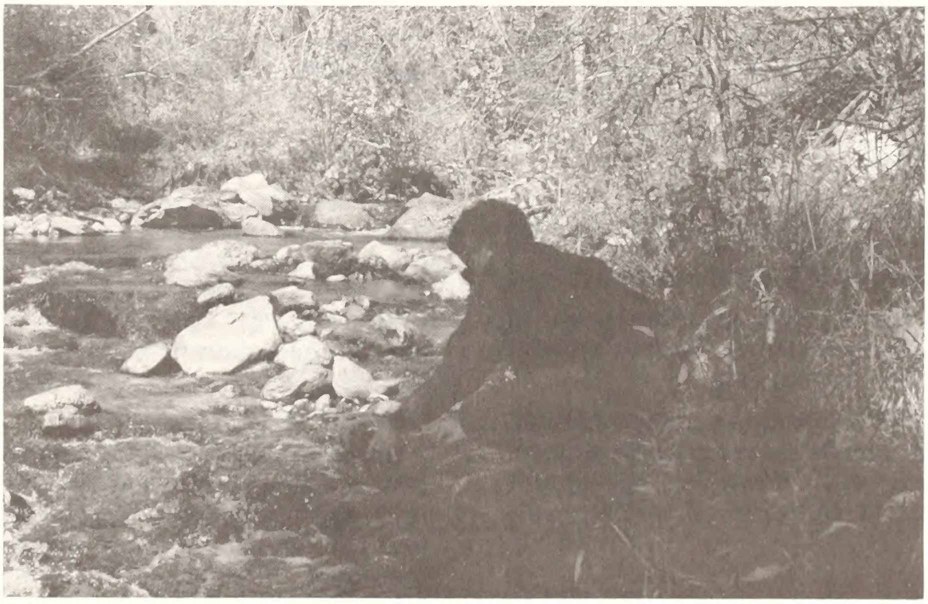
No intensive actions would be implemented in this program except as support to other program needs. Existing land use decisions as defined in appendix B would apply to surface development.

Wildlife

Wildlife management would focus on the development of an HMP for the Upper Laramie River. The principal objectives would be improvement of aquatic values. The action items to be considered in the plan would be as follows:

For the Upper Laramie River Aquatic HMP, we would pursue acquisition of access (1 mile), construct a parking area, and fence it to restrict vehicle traffic. We also would pursue acquisition of a walking easement (½ mile). We would monitor fishing pressure and cooperate with the Wyoming Game and Fish Department to identify the need for stocking fish or stream improvements.

For all the RMU, we would monitor elk, bighorn sheep, and deer ranges in regard to forage availability and condition. Ferret and burrowing owl searches in prairie dog towns would be conducted as needed.



RMU 13: Rawhide-Table Mountain-Springer/Bump-Sullivan

RMU 13 comprises 2,900 acres of BLM-administered land, 183,000 acres of state and private land, and 9,100 acres of federal mineral estate. The three areas of this RMU are separate land units combined into one large RMU for management clarity. The principal values are wildlife (waterfowl and upland game birds), recreation, and management of grazing.

The location and resources provide a unique opportunity for concentrated cooperation between the BLM and the Wyoming Game and Fish Department to manage and enhance these unique areas. Other programs would support these values. Lands emphasis would be on acquisition and some disposal in areas outside cooperative management units.

Cultural Resources

Management of cultural resources would consist of inventory and mitigation of impacts on cultural resources from proposed surface development.

Energy and Minerals

Minerals activity would be at a low level because BLM ownership is limited and there is little potential for locatable or salable reserves.

The potential for oil and gas development in this unit is considered moderate. No development has occurred in this area to date.

For the protection of wildlife and their habitat, no surface development except wildlife projects would be permitted in the Rawhide, Table Mountain, and Springer/Bump-Sullivan wildlife management units.

Fire Management

Management action for fire suppression is not practical because of this unit's remote location. There is a cooperative agreement on fire suppression with Goshen County.

No priority full suppression zones would be established in this RMU. Fire suppression would continue to be full suppression, as it is now.

Prescribed fire might be used for vegetative conversion or biomass reduction on the Table Mountain unit if recommended by the WGFD.

Forest Management

There is no forest management potential in this unit.

Grazing Management

This area contains five "M" category allotments. The AMP and grazing systems for the four lessees on the Table Mountain and Springer/Bump-Sullivan wildlife management units would be continued. The priority for management in all of these areas, including the Rawhide unit, would be wildlife and recreation. Decisions on grazing management would be made through consultation with the Wyoming Game and Fish Department.

Lands

We would pursue acquisition of 20 acres in the Springer/Bump-Sullivan area.

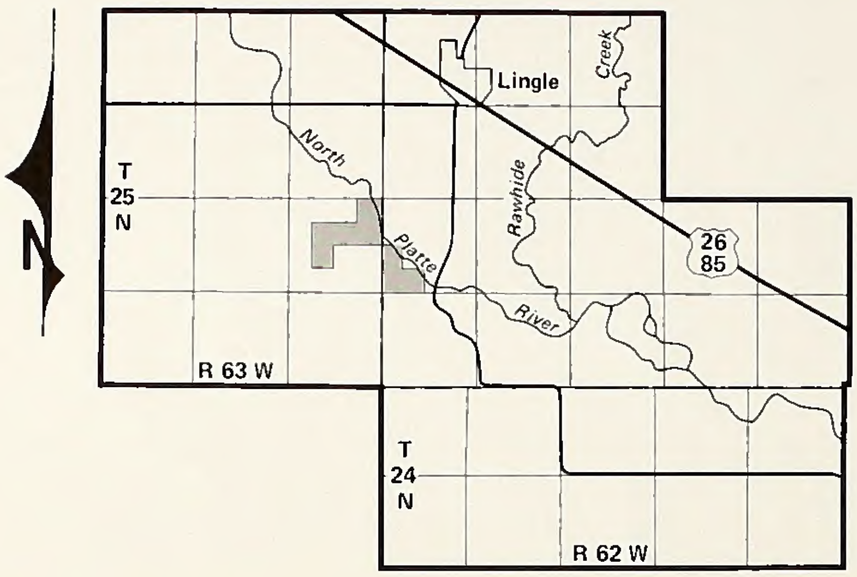
Recreation Management

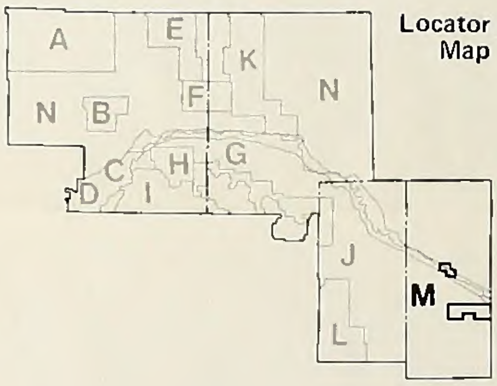
Recreation use in these three wildlife management units is intensively managed through a cooperative effort between the Wyoming Game and Fish Department and the BLM. There is a draft HMP for Table Mountain that provides special recreation management for hunting and fishing. Travel is restricted only during waterfowl hunting and nesting seasons.

Springer/Bump-Sullivan Wildlife Management Unit is managed intensively for recreation under joint management as described above. Hunting and fishing are the primary activities. Travel is restricted only during waterfowl hunting and nesting seasons.

An HMP would be prepared to provide management guidelines for the Rawhide Wildlife Management Unit. Public land would be added to the unit and managed similarly to existing management provided by the Wyoming Game and Fish Department. Hunting, fishing, and a landing/launching area on the North Platte River would be the primary recreation opportunities.

Rawhide



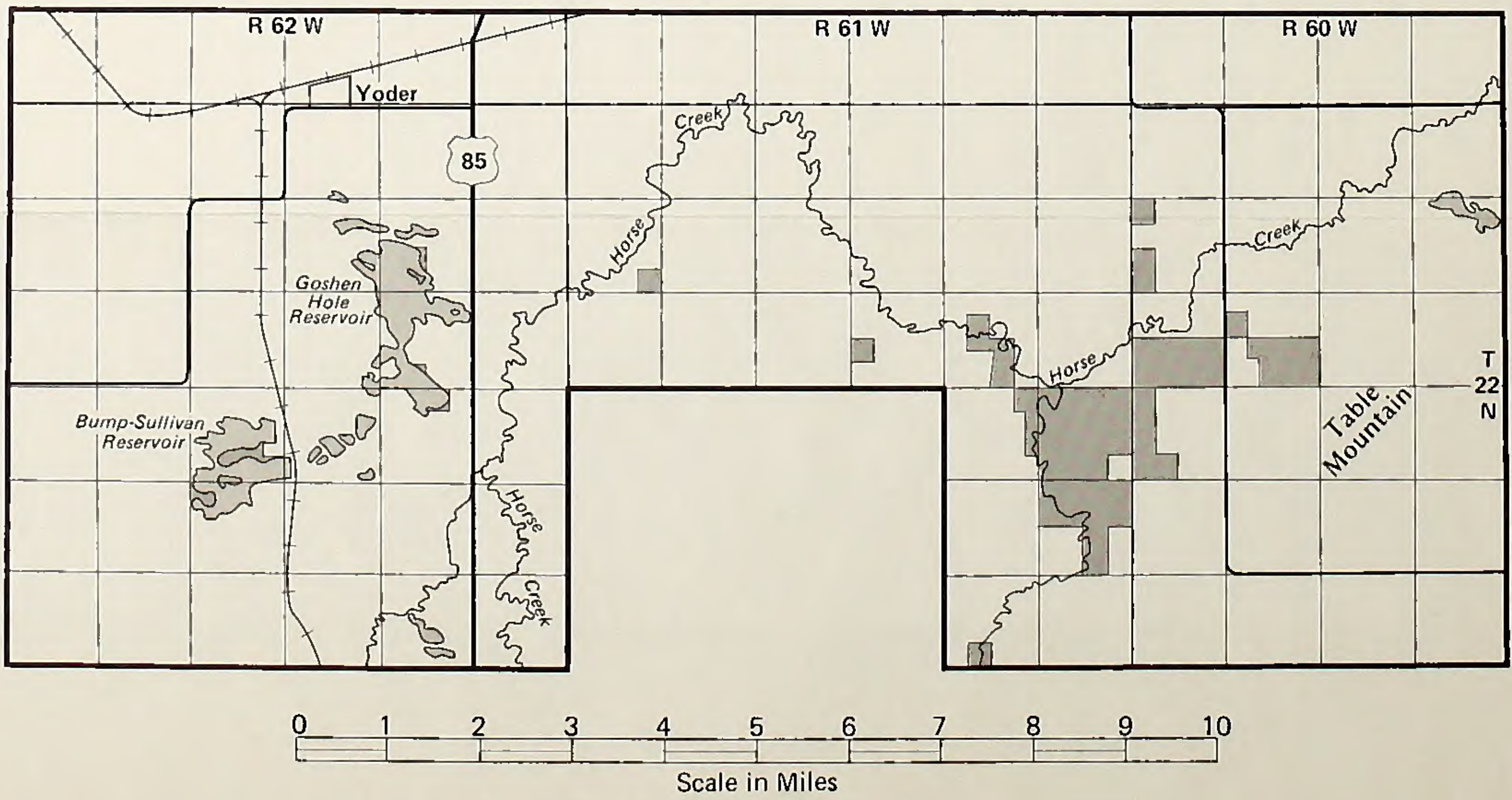


▨ Federal Surface (2900 acres)

☐ Private Surface (80,000 acres)

Federal Mineral Estate (9100 acres)

Table Mountain and Springer-Bump Sullivan



Map M Rawhide, Table Mountain and Springer-Bump Sullivan Resource Management Unit

Soil, Water, and Air

No significant management actions for soil, water, and air are anticipated except in support of wildlife programs. Existing land use decisions as described in appendix B would be applied to activities to protect intensive management areas.

Wildlife

As the principal resource program for this unit, the wildlife program would do the following.

For the Table Mountain Wildlife Unit, we would pursue acquisition of 20 acres through exchange. We would construct islands in reservoirs, construct goose nest structures on islands and on reservoir shores, fence and cultivate shelterbelts, seed native grasses in shelterbelts and in pastures, mow cattails and bullrushes, control noxious weeds, and control muskrats, jackrabbits, and prairie dogs. Vehicle traffic would be restricted during nesting and hunting seasons, and surface development would be prohibited except for wildlife projects. We would monitor duck, goose, and pheasant nesting and recreation use.

For the Springer/Bump-Sullivan Wildlife Unit, we would construct islands in reservoirs, construct goose nest structures on islands and on reservoir shores, fence and cultivate shelterbelts, seed native grasses in shelterbelts and in pastures, mow cattails and bullrushes, control noxious weeds, and control muskrats, jackrabbits, and prairie dogs. Vehicle traffic would be restricted during waterfowl nesting and hunting seasons, and surface development would be prohibited except for wildlife projects. We would monitor duck, goose, and pheasant nesting and recreation use.

For the Rawhide Wildlife Unit, we would construct islands in reservoirs, construct goose nest structures on islands and on reservoir shores, plant fence and cultivate shelterbelts, seed native grasses in shelterbelts and in pastures, mow cattails and bullrushes, control noxious weeds, and control muskrats, jackrabbits, and prairie dogs.

RMU 14: Platte River Resource Area

RMU 14 comprises all lands in the PRRA not included in the other 13 RMUs. It was established to provide a detailed accounting of grazing management, since most allotment boundaries do not coincide with RMU boundaries. There are unitwide resource values and program management needs for all multiple resources that cannot be confined to units. Prescriptions for this RMU address specific management needs and the general areawide program. All programs are addressed where values and needs exist.

Cultural Resources

In addition to specific sites identified in other RMU prescriptions, seven sites would be protected from surface occupancy or disturbance: Rawhide Buttes Stage Station, Chug Springs Stage Station, Elkhorn Stage Station, Chimney Rock Station, Rawhide Buttes Mining Disrtict, 48 NA 227 (AR-WY-060-165), and Spanish Diggings. Legal descriptions of these sites are included in appendix B.

A goal for this unit and for the PRRA as a whole would be to establish a cultural data base. Program management would be based on resource needs.

Energy and Minerals

Mining claims are scattered throughout much of the unit. There are many bentonite and uranium claims in Natrona County and Converse County. Other claims exist for gold, jade, copper, and iron. Assessment work is done annually. Material such as sand and gravel, bentonite, aggregate limestone, moss rock, and flagstone are available throughout the unit. Most public demand would be met through existing pits. New sale sites would be established on public demand.

There is high potential for oil and gas development in the part of the unit lying roughly north of U.S. Highway 20 from Lost Springs to Orin Junction, north of Interstate 25 from Orin Junction to Casper, and northwest of Wyoming 220 from Casper to the resource area boundary, with the exception of the Rattlesnake Mountains. There are numerous fields within that area that produce large quantities of oil or gas, or both. Most of the fields in Converse County have been developed within the past 15 years. New high-producing fields are still being discovered. Most fields in the high potential area of Natrona County are considerably older than those in Converse County. Because of their age, they produce smaller quantities of oil or gas per well.

The Rattlesnake Mountains have low potential for oil and gas. The rest of the unit has low to moderate oil and gas potential.

We would authorize exploration and development in accordance with lease provisions. Development would be subject to land use decisions described in appendix B.

Fire Management

On the basis of all previous RMU prescriptions, a total of 778,235 acres of BLM surface would be designated as either priority suppression (67,520 acres), full suppression (194,315 acres) or limited suppression (516,600 acres). That leaves approximately 621,218 acres of BLM surface for consideration in this RMU. Of the 621,218 acres, 16,640 acres would be placed in priority suppression, 348,160 acres in limited suppression, and 256,418 acres would be managed under full suppression.

We would seek approximately 24 cooperative agreements with owners of adjacent land for inclusion of intermingled ownership lands in the limited suppression plan. This would mean that there would be an estimated total of 105 cooperative agreements in the PRRA when the limited suppression plan was fully implemented.

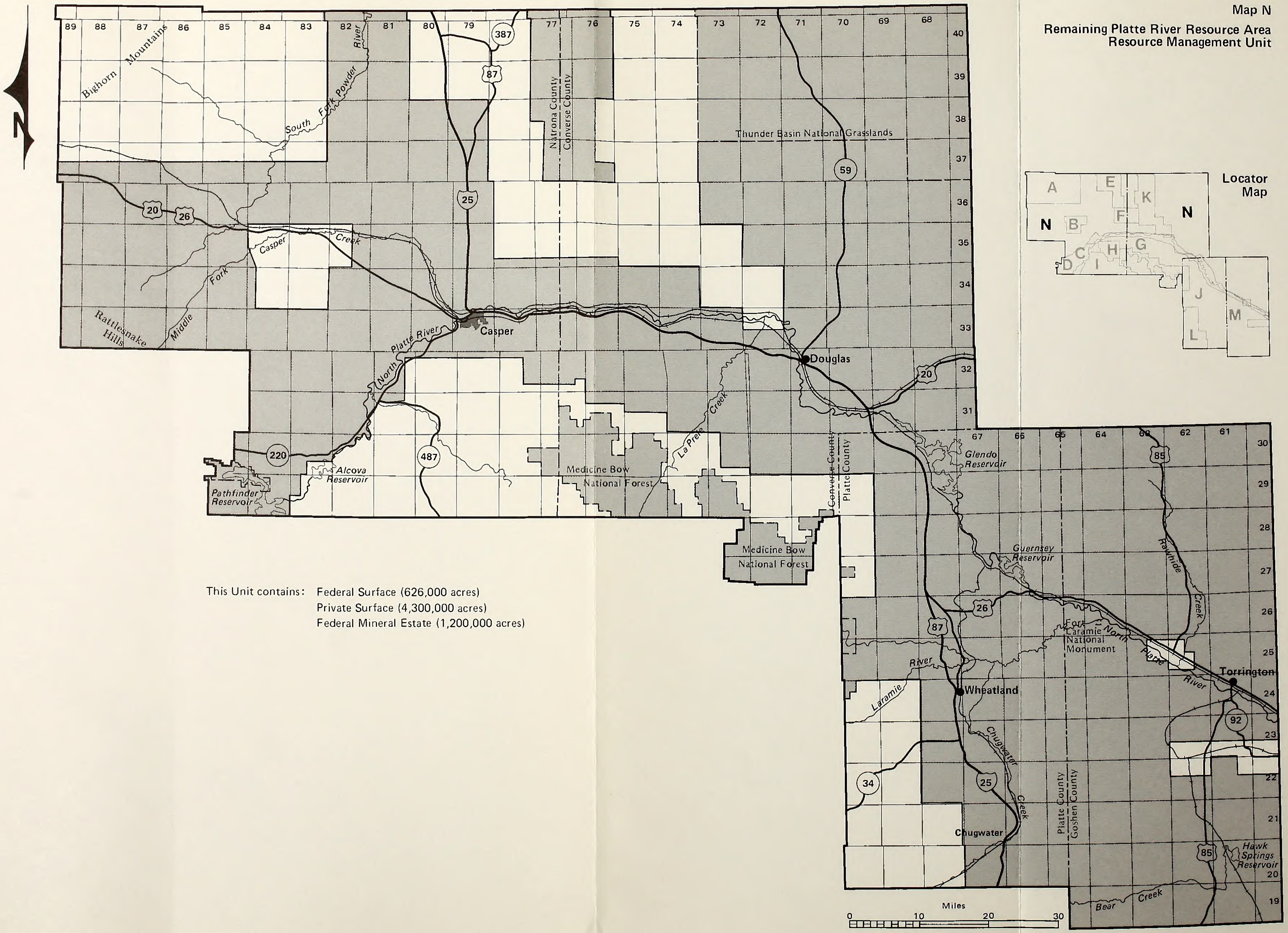
Fire management for the entire resource area would incorporate a priority suppression plan, a limited suppression plan, and a prescribed fire plan, as well as the normal fire year plan and the fire suppression constraints required by wildlife, cultural, and watershed resources.

An estimated total of 16,500 acres of this RMU would be addressed in the prescribed fire plan. This would bring the total potential burn treatment area for the PRRA to about 41,000 acres.

We would continue cooperative agreements on initial attack for fire suppression with the Forest Service, the Wyoming Division of Forestry, Natrona County, Converse County, and Goshen County. Platte County would be included after establishment of agreements.

Map N

Remaining Platte River Resource Area Resource Management Unit



This Unit contains: Federal Surface (626,000 acres)
Private Surface (4,300,000 acres)
Federal Mineral Estate (1,200,000 acres)

Forest Management

Management actions would focus largely on collection of data from which to prescribe forest management. Management potential is affected by marginal forestry base, topography, and distance from communities. We would do the following:

For Hartville-Sunrise, we would conduct a forest reconnaissance of the area, collect data, and assess the resource potential. If there should be harvest potential we would sell on demand only, and the permittee would have to arrange access.

For Pine Ridge, we would conduct a forest reconnaissance of the area, collect data, and assess the resource potential. If there should be harvest potential, we would sell on demand only, and the permittee would have to arrange access.

For Salt Canyon, we would conduct a forest reconnaissance of the area, collect data, and assess the resource potential. If there should be harvest potential, we would prepare a plan for the sale and obtain temporary access.

For other isolated tracts, we would conduct a forest reconnaissance of the area, collect data, and assess the resource potential. If there should be harvest potential, we would sell on demand only, and the permittee would have to arrange access. If no potential was found, these areas would be eliminated from the forest base.

For Rattlesnake Mountain, we would conduct a forest reconnaissance, collect data, and assess the resource potential. If sufficient volume should be present to warrant sales, we would sell forest products on demand only.

For Bessemer Mountain, we would conduct a forest reconnaissance, collect data, and determine the managment potential.

For Coal Mountain, (part of which is in RMU 8 and part of which is in RMU 14), we would conduct a forest reconnaissance of the area, collect data, and determine the resource potential. If there should be harvest potential, we would sell forest products on demand.

Grazing Management

Our overall objective for the grazing management program in the PRRA is to prevent overgrazing and downward trends in all 407 leases and to improve livestock forage conditions in 37 "I" category leases and 15 "M" category leases. This is to be accomplished with no adverse impact to wildlife and watershed values. If two alternatives are available that offer comparable benefits to livestock, the alternative that is most beneficial to wildlife and watershed values would be chosen. Custodial ("C") category allotments would be available for sale or other disposal if all criteria were met.

All lease expiration dates would continue to be 2-28-1990. Existing grazing preference allocations would remain unchanged. Future upward or downward changes could be allocated to livestock, wildlife, watershed, or a combination of these three land uses.

Livestock kinds, seasons, and numbers would continue to be authorized as shown in appendix D. Allotment boundaries and base property locations would be recertified for all "I" and "M" allotments.

A base property requirement of 90 days would be established for the entire resource area. This 90-day requirement would be determined according to a formula developed by the BLM. An exception would have to be made for existing allotments that have historically had less base property than that necessary to meet a 90-day requirement. For those allotments, future reductions in size or division of the allotment would not be possible unless it could be combined with an adjacent allotment that meets the 90-day requirement.

Preference statements (annual grazing lease applications) would be sent to all lease holders of "I" and "M" category allotments.

"C" category allotments would be leased year-round if no other information was available.

We would continue to operate two AMPs for the Bates Creek and Table Mountain allotments. Additional AMPs would not be written unless a serious livestock use conflict was found. Livestock grazing management problems would be handled through the use of lease stipulations.

Cooperative management agreements would not be initiated from 1985 through 1989. After 1989, agreements could be made on "I" and "M" category allotments if personnel and funding were available after completion of work in high priority "I" category allotments.

The intensity of use supervision would vary according to allotment category and the level of studies implemented. Use supervision would range from field verification of actual use to field checks of forage utilization. For a more detailed description by allotment, see table 5-1.

Use supervision on "C" category allotments would be handled as specific problems arise, or on a minimum of 10 allotments per year. Supervision would amount to a verification of livestock use, estimate of range condition and use, and photographs of public land in the allotment.

Range site mapping would be completed for the slope west and north of Buffalo Creek on the Buffalo Creek and Willow Creek ranches, an area of approximately 50,000 acres.

Grazing permittees would have to provide actual use data annually for the first five years. Thereafter, requirement for actual use data might be limited to "I" category allotments.

Forage utilization studies would vary from permanently located transects to an ocular estimate for complete pastures. The studies would be closely tied to use supervision. Permanent trend transects would be located in higher priority "I" category allotments where potential use problems exist. More transects might be installed after the first five years.

Additional rain gauges would be installed. Locations would be coordinated with soils and vegetation benchmark studies.

Range readiness and plant phenology studies would be used in critical spring or early summer pastures, particularly in areas of higher elevation such as the south Big Horns, Muddy Mountain, Deer Creek range, and Rattlesnake range.

We would conduct special studies in selected high erosion areas and areas of potential conflict between livestock and big game. These studies would be expanded at the end of five years if problems were found.

We would conduct intensive studies on trend, wildlife, watershed, range site mapping, or high use supervision for some high priority "I" allotments. Ranchers would be contacted for project work or if problems should be found through use supervision.

Funds generally would be allocated first to project developments in "I" category allotments, second to "M" allotments, and last to "C" allotments. Allotment-wide projects would take precedence over single, isolated projects.

Fencing specifications found in the BLM Manual, section 1737, would be used for critical winter range for antelope and antelope migration routes. For other land, the following fencing guidelines would be used: Bottom smooth or barbed wire 10 inches from the ground; top wire 42 inches from the ground; a maximum of 5 wires; and 12 inches between the top two wires.

Grazing fee funds or range betterment funds would not be used to build or maintain fences that exclude livestock grazing to the benefit of other activities. Examples of such projects are fences around reservoirs, riparian areas, and recreation sites.

Stock driveway fences would be maintained jointly by the BLM and the adjoining grazing lessee. The BLM would provide materials and the lessee would provide labor.

Water developments normally would be constructed by the BLM and maintained by the user. The BLM would provide most of the funds for drilling and casing wells, with the rancher supplying all down hole and above-ground equipment.

BLM funding of major reconstruction projects would be determined case by case.

The following decisions on stock driveway use would continue to be implemented:

Where established stock driveways were not being used for trailing, action would be taken to cancel the stock driveway withdrawal and fence the area into adjacent allotments or issue permanent leases to adjacent BLM lessees.

Where stock driveways were used only lightly for trailing and not fenced, the BLM would either lease to the grazing lessee whose lease most practically could make use of the area or reserve the AUMs for trailing.

Where forage remained after the trailing period on stock driveways, the areas could be leased for supplemental use on a year-to-year basis.

All other stock driveways would be used exclusively for trailing livestock.

The BLM would cooperate with the four county weed control districts in the control of noxious weeds on BLM-administered lands. Control measures would conform to the procedures outlined in the EA for noxious weed control (USDI, BLM 1982a).

TABLE 5-1
RANGE MANAGEMENT PRESCRIPTIONS IN THE PLATTE RIVER RESOURCE AREA

Number on Map	Operator Name	Operator Number	Allotment Name	Allotment Number	Use Supervision High-Moderate-Low	Actual Use (Rancher)	Trend Transects	Range Site Mapping	Wildlife or Watershed Studies
1	Aetna Insurance Company	6280	Buffalo Creek	1	H	X	X	X	X
2	Bates Creek Cattle Company	6031	Two Bar	2	L	X			
			Bates Creek	3	H	X	X		
3	Bentley	6033	Posvar	4	H	X	X		X
4	Bonar	6047	Bonar	5	L	X			
5	Britain	6057	S. Cave Gulch	6	H	X			
			Powder River Draw	7	H	X			
			Sand Draw	7	M	X			
			Waltman	8	M	X			
6	Burke Sheep Company	6066	Burke	9	M	X			
			Cheever Flat	10	L	X			
			Merino A.T.[a]	1001	H	X			
			Bucknum A.T	1002	H	X			
			Hemingway	11	M	X			
7	Carlson, A.L.	6094	Hiland	12	H	X			
			Railroad	13	H	X			
			Camel's Hump	14	H	X			
			Ellis Mountain	15	H	X			
8	Cheney Livestock	6100	Cheney	16	M	X			
			Muddy Mountain	17	H	X	X		X
9	Clear Creek Cattle Company	6107	Clear Creek	18	M	X			
			Kantrell-Todd	19	L	X			
			Matador	20	M	X			
10	Cloud Creek Sheep Company	6111	Cloud Creek	21	H	X			
			Fifty-mile Flat A.T.	22	H	X			
			Pine Creek	23	M	X			
			Fifty-mile Flat	1003	H	X			
11	Coffman Ranch Company	6115	Coffman	24	H	X			
			Spring Creek	25	H	X			
			Powder River	26	H	X			
			Beck Place	27	H	X			
12	Cummings	6423	Cummings	28	H	X			
13	Deer Creek Ranch	6071	Keg Spring Draw	29	H	X			
			South Hiland	30	H	X			
14	Elkhorn Land & Livestock	6179	Elkhorn	31	H	X			
15	Garrett Ranch	6213	Garrett	32	H	X	X		X
16	Howard Farms	6184	Baskett	33	H	X			
			Ellis Trust	34	H	X			
			Eagle Creek	35	H	X			
			Brian	36	M	X			
17	Irvine Brothers	6300	Irvine Brothers	37	H	X			
			Cottonwood A.T.	1004	H	X			
			Lester Trail A.T.	1005	H	X			
			East Trail A.T.	1006	H	X			
			West Trail A.T.	1007	H	X			

RANGE MANAGEMENT PRESCRIPTIONS (continued)

Number on Map	Operator		Allotment		Use Supervision High-Moderate-Low	Actual Use (Rancher)	Trend Transects	Range Site Mapping	Wildlife or Watershed Studies
	Name	Number	Name	Number					
18	Irvine Ranches	6302	Davis	38	H	X			
			Begley	39	H	X			
19	Marton Brothers	6308	Marton	40	H	X	X		X
20	McGuire, Fred	6394	Cooney Hills	41	M	X			
21	Miles Land & Livestock	6413	Ice Cave Mountain	42	M	X			
			Alcova	43	H	X			X
22	Burns Land & Cattle	6416	Ervay Basin	44	H	X			
23	Miles Livestock	6422	Poison Spider	45	L	X			
			Bessemer Mountain	46	H	X			
			Lone Tree	47	H	X			
			Spruce Creek	48	L	X			
			Emigrant Gap A.T.	1501	H	X			
24	Rattlesnake Grazing	6015	Rattlesnake	49	H	X			
25	Rimrock Livestock	6535	Emigrant Gap	50	L	X			
			Deer Creek	51	H	X			
26	Robinett, V.	6539	Stone Ranch	52	H	X			
			Potter	53	H	X			
27	Schmitt	6556	Little Red Creek	54	H	X	X		X
28	Shamrock	6563	Cloud Creek	55	H	X			
			Castle Creek	56	H	X			
			3T	57	H	X			
			Mountain West	58	M	X			
			Mountain East	59	M	X			
29	Shepperson, K.R.	6465	South Castle Creek	60	M	X			
30	Squaw Mountain	6270	Squaw Mountain	61	M	X			
31	Steinle	6602	Steinle	62	H	X	X		X
32	Stevenson & Sons	6011	Pathfinder	63	H	X			
33	Strohecker	6609	Coyote Creek	64	H	X			
			Strohecker	65	H	X			
34	Sullivan	6612	Sullivan	66	H	X			
			Red Fork	67	M	X			
			West Trail A.T.	1007	H	X			
35	Teapot Ranch Company	6622	Teapot	68	M	X			
36	Willow Creek Company	6674	Willow Creek	69	H	X	X	X	X
37	Wollen	6311	Wollen	70	H	X			
38	Allemand, R.	6002	Allemand	71	M	X			
39	Antelope Springs	6010	Antelope Springs	72	M	X			
			Lone Bear	73	M	X			
40	Body, A.	6040	Elk Creek	74	M	X			
			Texas Creek	75	H	X			
41	Body, R.	6042	Body	76	H	X			
42	Braunschweig	6051	Braunschweig	77	L	X			

RANGE MANAGEMENT PRESCRIPTIONS (continued)

Number on Map	Operator		Allotment		Use Supervision High-Moderate-Low	Actual Use (Rancher)	Trend Transects	Range Site Mapping	Wildlife or Watershed Studies
	Name	Number	Name	Number					
43	Bremer	6713	North Platte	78	M	X			
44	Brewer	6053	Brewer	79	M	X			
			Goldeneye	80	H	X			
			Tie Bridge Gulch	81	M	X			
45	Brooks, B.B.	6058	Ormsby	82	L	X			
			Smith Creek	83	L	X			
46	Carlson Ranch Company	6135	Pine Creek	84	L	X			
			Waltman	8	L	X			
47	Clemons	6152	Clemons	85	M	X			
48	Coates	6112	Coates	86	M	X			
49	Cole Creek Sheep Company	6122	Cole Creek	87	M	X			
50	Collins, J.	6081	Granite Ridge	88	M	X			
51	Dodds	6166	Dodds	89	L	X			
52	Ellis Sheep Company	6185	Big	90	M	X			
			Cleghorn	91	M	X			
			Foster Draw	92	M	X			
			Middle Fork	93	M	X			
			Donlin	94	M	X			
			Bucknum A.T.	1002	H	X			
53	Fenton	6190	Fenton	95	M	X			
			Waltman	8	L	X			
54	Forgey	6198	Forgey	96	L	X			
55	Gowin	6219	Paul Place	97	M	X			
			North Casper Creek	98	M	X			
			Buchanan	99	L	X			
			Merino A.T.	1001	H	X			
56	Harlan, C.	6691	Cloud Creek	100	M	X			
			Powder River	101	M	X			
			Harlan	102	M	X			
			Trail	103	M	X			
57	Harlan, R.	6633	Broken Horn	104	M	X			
58	Harvey, J.	6260	Spring Canyon	105	L	X			
59	Haygood & Martin	6263	Corral Creek	106	M	X			
			Haughton	107	L	X			
60	Henry	6269	Henry	108	L	X			
			North Fork	109	M	X			
61	Holman	6274	Holman	110	H	X			
			Alkali	111	H	X			
			First Water	112	H	X			
62	Hornbuckle	6018	Hornbuckle	113	L	X			
			55 Ranch	114	L	X			
			North Fork	109	M	X			
63	Irvine, Van	6306	Antelope Hills	115	M	X			
			Lone Tree Gulch	116	M	X			
			Flying Diamond	117	M	X			
64	Jarrard	6314	Jarrard	118	H	X			
			Smokey Gap A.T.	1008	H	X			
65	Johnson, Bill	6315	Togy Mound	119	L	X			
			Table Mountain 1	120	H	X	X		X

RANGE MANAGEMENT PRESCRIPTIONS (continued)

Number on Map	Operator Name	Operator Number	Allotment Name	Allotment Number	Use Supervision High-Moderate-Low	Actual Use (Rancher)	Trend Transects	Range Site Mapping	Wildlife or Watershed Studies
66	Johnson, Jack	6317	Johnson	121	H	X			
67	Lorenz	6736	Table Mountain 2	122	H	X	X		X
68	M & D	6402	M & D	123	M	X			
69	Manning	6521	Manning	124	M	X			
70	Marshall	6380	Ward Place	125	M	X			
71	McGuire, B., Sr.	6032	Lower Muleshoe	126	H	X	X		
			Upper Muleshoe	127	M	X			
			Slate Creek	128	M	X			
72	Burns Land & Cattle	6000	Garfield Peak	129	H	X			
73	Miller, D.	6415	Miller	130	M	X			
74	Milne, J.	6425	Sheep Creek	131	M	X			
75	Milne, G.	6427	Wallace Creek	132	M	X			
76	Moore, Tye	6442	Clarkson Hill	133	M	X			
77	Pine Mountain Ranch	6493	Pine Mountain	134	M	X			
78	Robinett, Guy	6026	Barker	135	M	X			
79	Salt Creek Ranch	6552	Cottonwood Creek	136	H	X			
			Bothwell Creek	137	H	X			
			Salt Creek	138	H	X			
80	Sanford	6666	TTT-Scott's Place	139	H	X			
81	Schnoor	6558	Schnoor	140	H	X			
82	Scott	6560	Bessemer Bend	141	L	X			
			Jackson Canyon	142	M	X			
83	Sedman	6704	Table Mountain 3	143	H	X	X		X
84	Shepperson Ranch	6570	Castle Creek	144	H	X			
85	Skyline Ranches	6075	Diamond Ring	145	H	X			
			Midwest	146	H	X			
86	Smith Sheep Company	6586	Smith	147	M	X			
87	Spratt & Sons	6739	Okie Trail	148	M	X			
88	Staple 3 Sheep Company	6597	Staple Three	149	M	X			
89	Thirty-one Bar	6062	Thirty-one Bar	150	M	X			
90	Valentine & Sons	6638	Valentine	151	M	X			
			Big Muddy	152	L	X			
91	V.I. Sheep Company	6642	Edgerton	153	H	X			
			Smokey Gap	154	H	X			
			Dead Horse	155	H	X			
			Eagle Creek	156	M	X			
			Barnum Road	157	M	X			
92	Weidt	6353	Weidt	159	M	X			
93	Zavorka	6685	Bump-Sullivan	160	H	X			
94	Seven L Livestock Company	6562	Seven L	161	M	X			

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a. "A. T." indicates "after trail"; that is, grazing is permitted in the area of a stock driveway at other times than during trailing.

We would cooperate with local, state, and other federal agencies to control grasshopper infestations. Control measures would be in accordance with the procedures contained in the *Rangeland Grasshopper Cooperative Management Program: Final EIS* (USDA, APHIS and USDI, BLM 1980).

Prairie dog towns may be poisoned unless a sighting of a black-footed ferret has been documented with the previous five years, or unless the USFWS indicates maintenance of the town is essential to the survival of the ferret.

Lands

This unit contains the largest acreage that would be available for disposal by sales or by exchange. Approximately 95,640 acres have been identified for disposal. A disposal plan would be prepared for the entire resource area to include all tracts potentially available for disposal. Priority for disposal action would be established following review of all identified areas.

The following routes would be designated for corridors: U.S. Highway 87, except for the Midwest/Edgerton area; Interstate 25 east of Casper and north of the Teapot vertical altitude benchmark; U.S. Highway 20-26 west of Casper, for a width of 1 to 3 miles; Wyoming Highway 387, excluding the segment from the U.S. Highway 87 junction to 3 miles northeast of Edgerton; and Poison Spider Road for a width of 1 to 2 miles.

There are six leases or patents in this RMU. Use of these areas would continue as permitted, and no mining or oil and gas leasing would take place in these areas.

One easement for public access would be sought for Canyon Creek to provide access to the Rattlesnake Mountain Range.

Recreation Management

Generally, the unit would be managed as an extensive recreation management area where dispersed recreation would be encouraged and where visitors would have freedom of recreational choice with minimal regulatory constraint. Recreation management and maintenance would emphasize monitoring, use supervision, and enforcement to resolve user conflicts and provide resource protection.

ORV use would be limited to existing roads and vehicle routes on all public lands except for the Poison Spider Bentonite Pit. This 200-acre area would be designated an open area for all forms of ORV use year-round. The BLM would seek assistance in managing the area through the use of a special recreation use permit, which would provide for a local ORV group to assist in managing, maintenance, and monitoring. Support facilities would be vault latrines, picnic tables, and trash cans.

Camel Hump Campground will continue to be managed and maintained for camping with only minimum facilities planned. Facilities would include one vault latrine, designated parking and camping areas, picnic tables, and trash cans.

Soil, Water, and Air

The following sensitive drainages would be studied further to determine the need for additional protective measures and for the development and implementation of watershed management plans: Cloud Creek, Cave Gulch, Castle Creek, Aspirin Creek, and Wallace Creek. The same kind of studies would be done on the fragile watershed areas Alcova Rim and at the head of Small Creek; T. 36 N., R. 82 W.; T. 38 N., R. 82 W., Sec. 4; and T. 39 N., R. 82 W., Secs. 33 and 34.

Level II stream surveys would continue until a statistically reliable data base could be established. Progress also would continue toward completion of the order III soil survey now being conducted for the rest of the unit.

The inventory of water right quantification on public land would continue, but it would not be completed by October 1985 without additional personnel and funding.

National Pollutant Discharge Elimination System monitoring would continue on point discharges in oil fields.

Wildlife

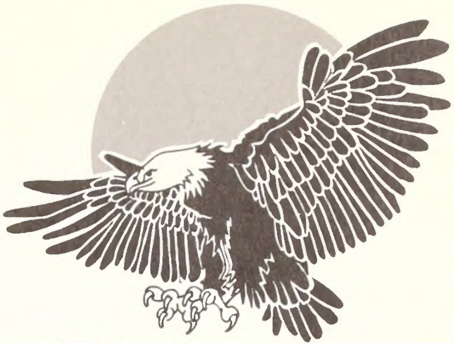
The following wildlife management would be implemented:

For the Medicine Bow HMP, we would fence riparian areas, improve springs and seeps, control beaver populations, and monitor and study habitat condition and trend and wildlife use.

For the Thirty-three Mile Reservoir HMP, we would maintain the exclosure fencing and initiate a study to determine the nesting density of waterfowl and shorebirds.

For the Teal Marsh Reservoir HMP, we would maintain the exclosure fencing, study the nesting density of waterfowl and shorebirds, fence the wetlands portion of the reservoir, annually initiate studies of antelope and deer winter ranges for condition of browse, monitor sage grouse and raptor nesting, mitigate oil and gas realty actions, and change fences in antelope critical winter range to meet standard specifications.

Coordination & Consultation



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CHAPTER 6:

COORDINATION, CONSISTENCY, AND PUBLIC INVOLVEMENT

INTRODUCTION

The Platte River RMP/EIS was prepared by an interdisciplinary team of specialists from the PRRA and the Casper District Office. In-depth reviews for accuracy and consistency were provided by both the district office and state office staffs.

Consultation, coordination, and public involvement have occurred throughout the process through public meetings, informal meetings, individual contacts, a newsletter, and *Federal Register* notices.

Writing of the document began in the summer of 1983. Much of the analysis, research, inventory, public involvement, and interagency coordination was done before that time.

PUBLIC PARTICIPATION

A public participation plan was prepared to ensure that the public would have numerous opportunities to be actively involved in the planning and environmental processes. Both formal and informal input have been encouraged and utilized.

Two *Federal Register* notices have been published. The February 11, 1980, notice identified potential issues and invited comment. Fourteen responses were received. Five requested placement on the mailing list, nine presented comments or concerns to be addressed in the RMP. Six of the comments were from Wyoming State agencies, two from local government sources, and one from industry.

A notice of intent to prepare a plan was published in December 1981. From the time the notice was published until April 28, 1983, 56 responses were

received. A news release on April 28, 1983, announced four public meetings to be held in May. At the same time, a newsletter listing planning issues and criteria was mailed to approximately 1,000 agencies, organizations, and individuals. The newsletter announced the meetings and contained a postage paid response form.

A total of 167 written or telephoned responses had beed received as of September 1, 1983. That total does not include comments received at the public meetings. Of the 223 responses received from the notice of intent and the newsletter, 11 were from federal agencies, 8 from local governmental units, 21 from interest groups (of which more than half were from conservation groups), 94 from business and industry (of which more than half were from the minerals industries), 67 from individuals (many of whom are grazing lessees), and 3 from other sources.

The Casper District Advisory Council and the Grazing Board have been kept apprised of the RMP progress and their comments have been solicited.

Each operator of an "I" or "M" category grazing allotment has been contacted either in person or in writing to discuss the categorization of that allotment.

Formal and informal meetings have been held with many members of the ranching and minerals communities and with other interest groups and agencies. A list of respondents and their concerns is on file in the PRRA office.

CONSISTENCY

Coordination with other agencies and consistency with other plans was accomplished through continuous communications and cooperative efforts between the BLM and involved federal, state, and local agencies and organizations.

The Wyoming Governor's Clearinghouse was supplied with numerous copies of this draft document for review to ensure consistency with the state's ongoing plans. County land use plans for the four counties have been reviewed by the RMP team to ensure consistency. Regular meetings have been held with the Natrona County Commissioners to promote greater understanding of the goals, objectives, and resources of both the county and the BLM.

Forest Service plans for the Medicine Bow National Forest and the Thunder Basin National Grassland have been reviewed and forest supervision consulted.

Local groups such as the Casper Mountain Pine Beetle Association have been consulted to ensure that all parties are aware of one another's plans and objectives. A complete list of agencies and organizations consulted is available at the PRRA office.

CONSULTATION/COORDINATION

Members of the RMP team have consulted formally or informally with numerous agencies, groups, and individuals throughout the process. The following are some of the agencies, organizations, and individuals consulted.

Federal Agencies

- Department of Agriculture
  - Forest Service
  - Soil Conservation Service
- Department of Commerce
  - Bureau of the Census
- Department of the Interior
  - Bureau of Reclamation
  - Fish and Wildlife Service
  - Geological Survey

State of Wyoming Agencies

Community Development Authority
Department of Agriculture
Department of Environmental Quality
Game and Fish Department
Geological Survey
Highway Department
Industrial Siting Commission
Oil and Gas Conservation Commission
Recreation Commission
State Engineer
State Forester
State Historic Preservation Officer
Water Development Commission

Local Governments

Commissioners of Converse, Goshen, Natrona, and Platte counties.

Organizations, Businesses, and Individuals

Casper District Advisory Council
Casper District Grazing Board
Casper Mountain Pine Beetle Association
Grazing lessees with "I" and "M" category allotments
Natrona County Farm Bureau
Petroleum Association of Wyoming
Rocky Mountain Oil and Gas Association
Wyoming Contractors Association

DISTRIBUTION

Copies of the document are available for review in the BLM offices at Lander, Rawlins, Worland, Buffalo, and Newcastle, in the Casper District office, and in the county libraries in Albany, Campbell, Converse, Goshen, Johnson, Laramie, Natrona, Niobrara, Platte counties.

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Coordination, support, and review were provided by the Division of Minerals, Lands, and Renewable Resources and the Division of Operations, Casper District. From the Wyoming State Office, the Division of Minerals, Lands, and Renewable Resources, Branch of Biological Resources and Branch of Planning and Environmental Assistance, provided coordination and review.

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APPENDIX A: ISSUES AND PLANNING CRITERIA

GENERATION AND ANALYSIS OF ISSUES

The BLM planning regulations equate land use planning with "issue resolution"; that is, problem solving. An issue may be defined as an opportunity, conflict, or problem regarding the use or management of public lands and resources.

As a practical matter, "issue-driven" planning means that only the aspects of current management direction that are thought to be at issue are addressed in the planning process. Alternatives are not developed for aspects of current management direction that are thought to be satisfactory. Thirteen issues are addressed in this document. These issues were identified through the judgment of the RMP interdisciplinary team, interagency consultation, public input, and review by BLM managers.

The 423 suggested issues are on file and available for review in the PRRA office in Casper. Suggested issues 1 through 79 were submitted in response to the first notice of intent in 1979 regarding the plans to develop the RMP/EIS. Suggested issues 80 through 255 were identified in January 1983 by the BLM resource specialists on the interdisciplinary team on the basis of land use conflicts and opportunities to improve public service. Each issue was individually reviewed and screened. Many issues were consolidated and carried forward. Others were beyond BLM jurisdiction, were already addressed in existing planning, were determined to be standard operating procedure or were not considered significant.

The 46 issues that evolved from this analysis were presented to the public in the May 1983 Platte River Newsletter. The newsletter was mailed to 1,200 agencies, groups, and individuals. Four formal public information meetings were held during the week of May 16-19, 1983, at Wheatland, Torrington, Douglas, and Casper. A total of 140 persons registered at the meetings.

Radio, TV, and newspaper interviews and announcements stimulated further public interest. Suggested issues 256 through 423 came from the formal public meetings, several follow-up group and individual sessions, and the response form contained in the newsletter. Many people telephoned or wrote the PRRA and asked to be put on the mailing list, which now contains nearly 1,500 addresses.

The majority of comments following the newsletter focused on the 46 suggested issues in the newsletter. As a result of the interdisciplinary team's evaluation of those issues and on public input, thirteen issues were identified to be addressed in the RMP/EIS.

Table A-1 shows the rationale for carrying or dropping each issue presented and discussed with the public since May 1983. The thirteen issues carried are marked with asterisks.

ISSUES AND CRITERIA BY PROGRAM

The issues related to each BLM program are described in the following sections, and the planning criteria that were developed for each are listed. Each criterion identifies a need for information, states policy that must be considered, or indicates a limitation to be considered in the formulation of alternatives. In most cases the necessary actions have been completed; in some, information gathering has been limited by time.

Cultural Resources

Issue: Cultural Resource Protection

Protection of identified cultural resource values needs to be increased for the scientific or sociocultural benefit of present and future generations. Increased activity in various land uses leads to an increased need for more effective management to protect cultural resources. Significant cultural sites may be deteriorating in value, and there is potential for permanent loss.

Planning Criteria

Potentially adverse actions must be identified and assessed in terms of the kind, magnitude, intensity, and duration of effects upon the character of each site.

Specific values that may be lost or compromised must be identified, and the way in which subsequent effects and site changes occur needs to be defined.

Priority must be assigned to cultural sites in order of significance, and options to preserve, protect, enhance, or salvage these sites need to be defined.

Evaluation of significance of cultural resources will be based upon National Register of Historic Places criteria set forth in 36 CFR 60.4.

Assessment of impacts will be based on 36 CFR 800.3, "Criteria of Effect and Adverse Effect".

Future levels of funding and personnel could limit achievement of objectives.

Appendix A

TABLE A-1
MAJOR ISSUES SUGGESTED BY THE PUBLIC

Program/ Number	Subject	Addressed in Alternatives	Rationale
Cultural Resources			
1*	Develop cultural resource management program	Yes	Opportunity to reoganize practices and priorities
2	Establish historic district in Salt Creek ACEC	Yes	Opportunity to protect significant sites. Combined with issue 1.
3	Inventory and protect cultural resources in Converse County	Yes	Not addressed in previous planning. Combined with issue 1.
4	Protect cultural sites	Yes	Opportunity to prioritize protection. Combined with issue 1.
Energy and Minerals			
5	Rehabilitate oil fields developed before 1976	No	Policy provides for reclamation
6*	Extract North Platte River sand and gravel	Yes	Opportunity to reevaluate previous decision
7	Reevaluate oil and gas decisions	No	Covered under existing management
Fire Management			
8*	Determine full suppression and limited suppression areas	Yes	Not addressed in previous policy
9	Establish functional suppression plans	No	Policy provides for suppression planning
10	Establish resource area adviser	No	Policy provides for advisers
11	Consider rehabilitation after wildlifes	No	Policy provides for rehabilitation
12	Consider prescribed burning for resource improvement	Yes	Not addresed in previous planning. Combined with issue 8.
Forestry			
13	Develop guidelines for pine beetle management	Yes	Opportunity to solve land management problem. Combined with issue 16.
14	Reassess fuelwood production to meet public demand	Yes	Opportunity to provide public service. Combined with issue 16.
15	Control timber trespass	No	Policy provides for enforcement
16*	Develop forest management program	Yes	Opportunity to organize practices and priorities
Grazing			
17	Categorize grazing allotments	Yes	Not addresed in previous planning. Combined with issue 19.
18	Establish parameters for range improvement projects	Yes	Would resolve range-wildlife conflicts. Combined with issue 19.
19*	Allocate forage for wildlife	Yes	Not addresed in previous planning

(continued on next page)

MAJOR ISSUES SUGGESTED BY THE PUBLIC (continued)

Program/ Number	Subject	Addressed in Alternatives	Rationale
Lands			
20*	Review lands for disposal or retention	Yes	Opportunity to improve public land management
21*	Review corridor designations	Yes	Opportunity to reevaluate significant land use
22*	Review access to public lands	Yes	Opportunity to reevaluate past decisions
23	Reconsider rights-of-way in Badwater area	Yes	Would resolve program conflict. Combined with issue 21.
24	Dispose of land in Midwest-Edgerton area for community expansion	No	Resolved administratively
25*	Consider withdrawals of areas from consideration for mining	Yes	Opportunity to protect significant resouces and land uses
26	Sale of two tracts of public land on Casper Mountain	Yes	Opportunity to resolve planning conflict. Combined with issue 20.
Recreation			
27*	Develop recreation area management plans	Yes	Opportunity to manage priority areas
28	Limit recreation funding to special areas	No	Funding priorities are established each year administratively
29	Improve maintenance on recreation areas	Yes	Opportunity to upgrade priority areas. Combined with issue 27.
30	Develop more environmental education areas	No	Management capability is limited
31	Retain public lands along North Platte River for wildlife and recreation	Yes	Opportunity to change previous decision. Combined with issue 27.
32	Develop Muddy Mountain snowmobile program	Yes	Opportunity to meet public demand. Combined with issue 27.
33	Develop off-road vehicle designations for entire Platte River Resource Area	Yes	Opportunity to complete and reevaluate off-road vehicle designations. Combined with issue 27.
34	Provide for overnight camping facilities at Goldeneye	Yes	Opportunity to change past decisions and meet public demand. Combined with issue 27.
Soil, Water, and Air			
35	Develop seasonal restrictions on surface disturbing activities in Laramie Mountain Range	No	Resolved administratively
36	Develop water management program	Yes	Not covered in previous planning. Combined with issue 38.
37	Develop aquifer data base	No	Information available from other agencies
38*	Develop comprehensive watershed management program	Yes	Opportunity to organize practices and priorities

(continued on next page)

MAJOR ISSUES SUGGESTED BY THE PUBLIC (continued)

Program/ Number	Subject	Addressed in Alternatives	Rationale
Wildlife			
39	Reevaluate forestry and fire restrictions	No	Resolved administratively
40	Give priority to recreation and wildlife at Rawhide Unit	Yes	Opportunity to meet public demand and improve habitat. Combined with issue 43.
41	Control damage by prairie dogs	No	Policy provides for prairie dog control
42	Allow disposal of public lands inhabited by prairie dogs	Yes	Opportunity to reevaluate previous decision. Combined with issue 20.
43*	Develop habitat management plans	Yes	Opportunity to improve priority areas
Special Designations			
44*	Review ACEC designations	Yes	Opportunity to reevaluate intensive management priorities
45	Protect Casper Sand Dunes	Yes	Change in land management emphasis. Combined with issue 44.
46	Reevaluate management of Muddy Mountain Natural Area	Yes	Opportunity to solve forest management problem. Combined with issue 44.

* Asterisk indicates that the suggested issue was incorporated into the issues considered in this RMP/EIS.

Energy and Minerals

Issue: Sand and Gravel Extraction

The demand for sand and gravel is closely linked with construction and development occurring at or near the high population areas in the PRRA. The population areas are primarily along the North Platte River. Extraction of sand and gravel from the federal mineral estate is prohibited within ¼ mile on either side of the river for its entire length. There is a need to reevaluate this restriction and to consider using sand and gravel within the ¼-mile buffer.

Planning Criteria

The amount of gravel that is not available for extraction must be defined and the effect of these restrictions on the local sand and gravel industry needs to be determined.

Potential gravel areas outside the ¼-mile Platte River buffer should be identified, and the availability of that resource needs to be determined.

The locations where sources of sand and gravel are likely tc be needed in the next ten years must be defined.

Fire

Issue: Fire Management

Current planning gives little direction to fire management as it relates to the resource values involved, whether it be protection through suppression efforts or prescribed burning. Resource management objectives pertaining to fire need to be established so that fire use and suppression standards are compatible with resource values.

Planning Criteria

Priority full suppression will be provided for the following areas and values: urban/rural interface, especially on Casper Mountain; energy/transportation corridors; campgrounds and other high intensity recreation sites; commercial forestland; critical wildlife habitat; cultural resources; range improvements; structures; and oil fields. These areas must be delineated and priority levels assigned on the basis of input from resource specialists.

Limited suppression zones should be established in areas where the percentage of federal lands is greater than 50% for the area, or where there are "blocks" of BLM land of 3,000 acres or more, not less than ½ mile in width. Smaller "blocks" may be designated for limited suppression if all the adjoining landowners have entered into a cooperative agreement or other understanding stating their full agreement to the objectives and results of limited suppression.

Buffer zones between limited and full suppression areas should not take into account land ownership boundaries unless resource values are significantly higher or the need for protection of human life, structures, or facilities is evident at or near the boundary. Buffer zones generally will be at least ¼ mile wide. The width may vary case by case, depending upon predicted rate of spread, fire behavior, and values at risk.

Prescription guidelines under which limited suppression actions can be employed must be determined by the following factors:

> Fire history of the area, including fire frequency, predicted size and rate of spread, and predicted fire behavior.
>
> Climate at time of ignition: the current burning index, predicted weather conditions, and smoke management guidelines.
>
> Values at risk; that is, the location of fire in relation to buffer zones established for safety, private property not under a cooperative agreement, structures and range improvements, and designated high value resources.

There is a need for development of fire behavior and rate-of-spread predictions. This information should be incorporated into a limited suppression plan along with resource management prescriptions for each designated limited suppression zone.

When fires are burning within the previously established limited suppression prescription parameters, managers can modify fire suppression tactics in the following manner:

> Personnel and equipment committed to suppression may be less than in normal suppression efforts, so that expenses may be minimized.
>
> Initial attack response time may be slower because of the lower level of priority for suppression.
>
> The suppression effort may be only a monitoring exercise, allowing the fire to burn up to a natural barrier or to go out by itself.

Prescribed fire should be considered in the following programs:

> Range: vegetation manipulation to convert brush to desired species, rejuvenate desired species, increase forage, prevent or retard encroachment by trees, increase nutrient value and palatability, or maintain condition.
>
> Forestry: for disposal of product residues, seedbed preparation, hazard reduction, control of disease or insects, thinning, or species manipulation.
>
> Wildlife: for diversity of habitat to establish mosaic pattern, for vegetation manipulation such as aspen sprouting or brush conversion, or to set back succession.

Forest Management

Issue: Timber Harvest and Pine Beetle Control

Increased public demand for wood products from public lands has generated the need for the development and implementation of a timber management program. The productivity of public forestlands needs to be increased to meet public demand. Stands of trees contributing to the increasing mountain pine beetle infestation need to be harvested to promote regeneration of trees with higher tolerance to the pine beetle.

Planning Criteria

All productive and nonproductive forestlands in the resource areas need to be identified.

Desirable forest management intensity must be determined.

An allowable cut must be determined, given public demand and harvest goals for the resource area.

Efficient guidelines must be developed for the long-term management and protection of forestlands and other resource values. These should include control of pine beetle infestations in bald eagle habitats, control of mistletoe and beetle infestations in recreation areas, and cleanup of downfall and thinning of forest stands to reduce fire hazards.

Specific guidance for beetle control must be consistent with that found in the BLM Manual, section 9220: Pest Control.

Priority for beetle treatment will be in commercial forestlands, forestlands with high aesthetic value, and areas where surrounding ownerships are in jeopardy of being infested.

We will establish when or where removal and salvage of infested trees could be used to prevent further beetle spread. This could include selection cuts, patch cuts, clearcuts, and stand reduction cuts.

Grazing Management

Issue: Grazing Administration

Management changes appear to be needed in some livestock grazing allotments so that conflicts between livestock grazing, wildlife, and watershed uses and values can be reduced. Components of this issue are livestock-wildlife conflicts in critical ranges for antelope, deer, elk, and sage grouse; livestock-watershed conflicts in severe erosion areas or areas producing high sediment loads in streams; livestock overuse of riparian and subirrigated areas; opportunities for changing range conditions from fair to good; opportunities for range improvement projects that would increase forage or promote better utilization; prairie dog control conflicts; and weed control.

Planning Criteria

Priorities must be assigned to "I" category allotments on the basis of resource conflicts and opportunities. Some should be monitored intensively; others should be given range improvement projects and, if grazing use is proper, should be moved to the "M" category.

Intensive studies and monitoring need not be applied to all allotments needing such action because of the size and number of "I" allotments compared to limited personnel and funds. Studies and monitoring on "M" and "C" allotments will vary from low to high intensity; however, most will be low.

Wildlife specialists should study potential wildlife-livestock conflicts on a herd unit basis. Areas that fall within "I" allotments should be studied intensively according to priority.

Priority for additional work in existing AMPs must be dictated by the categorization process.

Initial livestock seasons and numbers need to be set with the use of present actual use data. Later studies and monitoring will determine the need for changes. Specific forage allocation decisions to change present livestock use should not be made until studies and monitoring have been completed. However, different levels of livestock use will be addressed in the RMP through the use of Missouri River Basin Study data.

If any serious conflicts are identified as a result of monitoring, a forage production inventory may be required to determine whether a change in use will be necessary.

Future AMPs will vary in scope from detailed written plans to lease stipulations.

General constraints or stipulations placed on all project development proposals must be evaluated. Total project needs should be considered for each allotment before public funds are spent. A cost/benefit analysis must be completed on each allotment before range improvements are constructed.

Project stipulations must be established for specific areas where definite restrictions would be applied to future range projects.

Fence project proposals should be shown in a general location, or in a specific location when that is known.

Water development must be addressed on a pasture basis. The estimated number of new projects will vary according to a worst case-best case analysis.

Land treatment projects must be addressed on a pasture basis, with an estimate of acres needing treatment.

Project proposals should be made by allotment regardless of category.

Lands

Issue: Disposal, Acquisition, and Leasing

There is a need to improve the efficiency and quality of management of the public land and to enhance public's use of that land. Small, isolated parcels of public land scattered throughout the resource area are difficult to manage, and lack of legal access limits or precludes public use of most of those parcels. Through exchange or disposal of the isolated parcels, the BLM would have opportunities to accommodate public works projects and to meet the need for recreation and for residential, commercial, agricultural, and industrial land. Such actions also could eliminate or reduce management burdens and costs and enhance resource values and land ownership patterns.

Planning Criteria

All public land in the PRRA must be placed in one of two groups: lands for retention and management and lands that can be considered for disposal.

Lands to be retained and managed are lands with one or more of the following characteristics.

They are covered by or are proposed for inclusion in a specific management plan or activity plan.

They are designated as national environmental assets such as national conservation areas, national historic trails, natural areas, natural research areas, areas of cultural or natural history, areas of critical environmental concern, or congressionally designated areas.

They are in large, manageable, and reasonably well "blocked" parcels.

Their retention and management would best serve the needs and interests of the public.

Lands to be considered for disposal, as a minimum, meet the following criteria: they are difficult and uneconomical to manage, or they were acquired for a specific purpose and are no longer needed for that purpose, or their disposal would meet important public objectives such as community expansion or economic development.

In addition, these lands would have the following characteristics.

They contain no significant wildlife, recreation, or other resource values, have no overriding public values, and represent no substantial public investments.

They do not contain commercial forest products in sufficient quantity and quality to cover the costs of conducting a forest management program.

They are close to communities.

They are suitable for agricultural, industrial, commercial, or residential development.

Their disposal would best serve the public interest.

All lands considered for disposal would be examined in detail before disposal. If for some reason those lands could not be disposed of, they would be retained. All exchanges from other resource programs must be consolidated and addressed under the lands program.

Issue: Withdrawals

Development of locatable minerals can cause significant impacts to resource values such as developed recreation areas; scenic, natural, scientific, wildlife, and watershed values; and cultural and historic resources. In some cases, those resources could be permanently altered or destroyed. The BLM has limited control over mining activity under 43 CFR 3809, and in some cases, this control is not sufficient to protect public investments and resources. The protection afforded to three areas by the C&MU Act would be terminated.

Planning Criteria

We need to determine whether the area proposed for withdrawals contains unique resources that are rare in occurrence, is of national significance, contains substantial public investments, or has a high likelihood of being subjected to mining and cannot be adequately protected by any means other than a protective withdrawal.

Issue: Corridors

There is a need to change current corridor locations, to expand or relocate some corridors, and to reevaluate restricted right-of-way areas. Two existing corridors appear to be unnecessary; two others are in conflict with other management programs and resource values.

Planning Criteria

Major facilities affected by the corridor concept are six-inch diameter or larger pipelines, excluding gathering lines; "H" frame or larger power lines; major collector highways; and railroads.

New corridors should be considered only when the existing locations are demonstrated to be impractical and unfeasible, where the environmental impacts can be mitigated, and where federal land ownership affects placement of facilities.

Designated corridors must be reasonably compatible with existing land uses and resource values.

Any new corridor designations must provide adequate room for additional facilities.

No corridors are allowed over federal coal lands that are eligible for further leasing consideration or within 1 mile of the North Platte River.

Issue: Access

As recreation demand increases, so will the associated access problems. Public lands can accommodate much of the demand if legal access to these lands is obtained. Limited funds for recreation will prohibit both extensive access acquisition and continued road maintenance. Priorities need to be assigned to acquisition of access and to road maintenance; unnecessary easements currently identified need to be eliminated; and poorly located and unneeded roads should be closed.

Planning Criteria

Priority consideration for management attention must be given to areas of high use, areas with chronic access problems, large blocks of public land, and extensively developed recreation areas.

Any new access, whether obtained through a cooperative approach or by the BLM separately, should be established in conjunction with the management plan for the area. These plans must, at a minimum, include provisions for road or trail maintenance, monitoring use, and protection of resource values.

Cooperative efforts for access between federal, state, and local governments, private organizations, and individual landowners should be considered first.

Any new roads or trails created for access purposes must be located and constructed in accordance with the standards in the BLM Manual.

All access needs from other programs will be consolidated under the Lands program.

Recreation

Issue: Recreation Management

Public expectations and demand for recreational opportunities are greater, in terms of quality and quantity than BLM recreation management can provide. This issue is compounded by the fact that existing use points to a significant need for the development of new recreation sites and support facilities. There is a need to expand existing areas and facilities.

The lack of funding has not allowed for the proper management of recreation resources and use by visitors. The accelerating population growth and high participation rates in outdoor recreation are placing new demands on the wildlife, fishing, scenic, and recreational resources.

Planning Criteria:

We need to identify special areas where management of recreation is needed and to assign priorities to them. Specific objectives for the protection of visitors and resources need to be provided for these areas through activity plans, which will be developed according to the priorities established. Activity planning should be initiated only in areas where there are critical problems in recreation use that can be resolved given the existing limitations on funding and personnel.

Low priority recreation areas with no access should be considered for land disposal.

All recreation area management plans should follow the "recreation opportunity spectrum" concept. This concept focuses on a cost-recovery program for issuing special recreation permits and imposing user fees for certain recreation activities when substantial development costs are required. The concept also dictates that where development is allowed, cost will be offset by user fees, and any project development will be coordinated with a statewide priority system for recreation management areas.

Before intensive management or project development is carried out in any new recreation areas, existing recreation management areas must be provided for first. For the existing areas, the order of attention should be as follows: (1) congressionaly designated areas, (2) major rivers and other water-based areas where the BLM has clear jurisdication, (3) areas that have outstanding resource values not provided by other agencies or the private sector, and (4) areas where the recreational capacity is regularly exceeded, threatening significant resource values.

Special recreation management areas; that is, areas where more intensive management and major investments in recreation facilities and visitor assistance is needed, must receive higher priority for funding than extensive areas where management actions facilitate recreation use by providing maps, signs, and access routes.

Funding priorities may result in the closure of recreational sites that have been open for years but have a lower value or are subject to less public demand. We need to consider other management options for these areas, such as provision of minimal funding to support volunteer involvement for maintenance or supervision of visitors, or the transfer of management or maintenance to private or other governmental entities.

Regular on-site monitoring of recreation areas where chronic problems occur must be carried out during peak use periods.

Areas valued by the public for open ORV designation need to be identified, and any conflicts with an open designation in those areas also should be identified.

All designations in the ORV plan must be evaluated for effectiveness, especially in areas identified for priority management of recreation. ORV designations should serve to minimize damage to resources, to allow user access needs, and to promote public safety.

Soil, Water, and Air

Issue: Watershed Protection

An opportunity has been identified to develop a comprehensive watershed management effort to maintain and enhance watershed quality in the PRRA. This would include the reduction of erosion and maintenance or enhancement of water yield and quality for wildlife, recreation, livestock, municipal use, irrigation, and other public uses.

Planning Criteria

We must define monitoring that needs to be undertaken so that the impacts of livestock grazing, oil and gas exploration, mining, and other surface-disturbing activities can be evaluated.

As time permits, we need to collect and catalogue all available information on subsurface water in areas where federally initiated actions may be jeopardizing the quality or quantity of groundwater. Priority should be given to Natrona and Converse counties.

We must determine which public lands should be managed for water yield and quality. Elements considered should be geology, soils, vegetation, climate, water quality and quantity, watershed and hydrologic characteristics, present management, land ownership patterns, current water quality or trend, and adequacy of water quality for present or proposed uses.

Wildlife

Issue: Habitat Management

There is an increased demand for access to areas where small game hunting and stream fishing would be possible. Existing areas are overcrowded, and potential areas lack access and management. The same problems exist for nonconsumptive uses such as wildlife observation and photography. More intensive management of existing and potential wildlife habitat areas is needed.

Planning Criteria

We must determine which HMP areas have the most potential for increasing fisheries, small game, and nongame wildlife populations so that wildlife-related recreation may be increased.

Consideration should be given to whether other public lands within the resource area are more favorable than HMP areas for increasing wildlife populations or wildlife-related recreation. We must determine the types of actions that would be needed to improve habitat on HMP areas.

We need to determine what other resource uses are compatible with wildlife management on HMP areas and what restraints might occur to other resources.

Special Designations

Issue: ACECs and Natural Areas

Special management attention is needed in specific areas in the PRRA to protect important cultural and scenic values, wildlife resources, and other natural systems and processes.

Appendix A

Planning Criteria

The following areas need to evaluated for special management:

Pterodactyl Track ACEC

We need to determine whether the ACEC designation is needed for the Pterodactyl Track, reevaluate the acreage to be protected, and determine the measures needed to protect the area adequately.

Consideration should be given to what uses can be made of the area that will not have a detrimental impact on the area's scientific value.

We must determine what commitment, if any, the scientific community is willing to give toward the present and future use of this area.

Salt Creek ACEC

Historic oil and gas sites, structures, townsites, and other associated historic facilities in the Salt Creek ACEC need to be evaluated so that eligibility for the National Register of Historic Places can be determined. The following steps must be included.

> Potentially adverse actions should be identified and assessed in terms of the kind, magnitude, intensity, and duration of effects they would have upon the character of each site.
>
> Specific values that might be lost or compromised should be identified, and the way in which subsequent effects and site changes would occur should be determined.
>
> On the basis of the impacts assessment, we must determine how significant resource values can be preserved, protected, enhanced, or salvaged through effective mitigation of adverse effects.
>
> Evaluation of the significance of cultural and natural history resources must be based upon National Register of Historic Places criteria set forth in 36 CFR 60.4.
>
> Assessment of impacts must be based upn 36 CFR 800.3, "Criteria of effect and adverse effect".
>
> Future funding and personnel levels are not expected to constrain program planning goals and objectives significantly over the next five years.

Red Wall ACEC

The need for the ACEC designation on the Red Wall needs to be reevaluated.

Consideration should be given to whether recreation or other uses of the area under current management have a detrimental impact on scenic, wildlife, or watershed resources.

Jackson Canyon ACEC

Objectives must be established for management of bald eagle habitat in Jackson Canyon ACEC.

Forestry and fire management practices that would benefit wildlife need to be identified.

We need to identify the types of actions that disturb the eagles or their habitat and resource conflicts that might necessitate restrictions on some activities.

Muddy Mountain EEA

The BLM can provide direct involvement in environmental education programs only during the summer recreation season, when temporary employees or volunteers can be used. Our ability to conduct programs during the regular school year is limited unless schools or groups can provide their own supervision and interpretation under permit stipulations.

Reduced funding in the recreation program will provide only for maintaining the existing Muddy Mountain Environmental Education Area.

Casper Sand Dunes

Human-caused blowout areas should be identified, and measures need to be prescribed to stabilize these areas if feasible. Reclamation of such blowouts must show a favorable return in cost-benefit analysis.

APPENDIX B: PRESENT LAND USE DECISIONS

Constraints on Surface Development

Decisions marked with an asterisk in the list below constrain, prohibit or limit surface development. These apply to all land use proposals that involve surface development. The appropriate land use decisions will be found in the following pages in the same sequence by the program numbers noted below. The maps define the areas where the decisions apply. The maps are for graphic purposes only. Specific locations are shown on detailed maps in the PRRA office in Casper.

Cultural Resources (map 4)

*C1	Spanish Diggings
*C2	Oregon Trail
*C3	Bozeman Trail
C4	Establishment of data base
C5	Historic sites inventory
*C6	Protection of cultural sites

Energy and Minerals (maps 5, 6, and 7)

M1	Oil and gas
M2	Coal
M3	Salable minerals
M4	Locatable minerals

Fire Management

FM1	Prescribed burning
FM2	Heavy equipment use
FM3	Fire suppression in bald eagle roost areas

Forest Management (map 8)

F1	Forest management plans
F2	Allowable cut
F3	Harvest in the Muddy Mountain EEA
F4	Forest demonstration area

Grazing Management (maps 9 and 10)

G1	Grazing lease administration
G2	Weed and pest control
G3	Stock driveways

Lands (maps 11 and 12)

L1	Land disposition
*L2	Withdrawals
L3	Corridors
L4	Access

Recreation Management (map 13)

*R1	Recreation area management plans
R2	Off-road vehicles
*R3	Environmental education areas
*R4	Visual resource management

Soil, Water, and Air (maps 14, 15, 16, and 17)

SWA1	Watershed plans
*SWA2	Surface water protection
*SWA3	Soils
*SWA4	Slope restrictions
*SWA5	Cedar Ridge
SWA6	Winter construction
SWA7	Fencing reseeded sites
SWA8	Reseeding
SWA9	Fragile areas
SWA10	Rims and Gorges
SWA11	Bates Hole Watershed Plan

Wildlife (maps 18, 19, and 20)

*WL1	Habitat management plans
*WL2	Antelope habitat management
*WL3	Deer habitat management
*WL4	Sage grouse leks
*WL5	Critical winter range for elk
*WL6	Bald eagles
*WL7	Raptors
WL8	Turkeys
*WL9	Black-footed ferret habitat
WL10	Riparian habitat

Special Designations (map 21)

*SD1	Pterodactyl Track ACEC (cultural resources)
*SD2	Red Wall ACEC (recreation)
SD3	Salt Creek ACEC (soil, water, and air)
*SD4	Jackson Canyon ACEC (wildlife)
*SD5	Muddy Mountain EEA (recreation)
SD6	Casper Sand Dunes (soil, water, and air)

Land Use Decisions

Cultural Resources

**C1: Spanish Diggings*

No surface development will be permitted on the following described tracts in the Spanish Diggings prehistoric quarry (680 acres).

T. 30 N., R. 67 W.: Sec. 1, Lots 1, 2, 3, 4, S½N½, NW¼SW¼; Sec. 2, SE¼NE¼, N½SE¼, SW¼NE¼.

T. 31 N., R. 66 W.; Sec. 31, Lots 3, 4, E½SW¼.

**C2: Oregon Trail*

Sites along the Oregon and Oregon-Mormon emigrant trail system will be managed so as to foster, promote, and protect from adverse impacts its significant cultural, scientific, and recreational values, as outlined in the National Park Service's *Oregon Trail Comprehensive Management Plan.* Therefore, no surface development would be allowed on the following sites and the BLM will reassess the need to write management plans for historic sites that are potentially eligible for the National Register of Historic Places (867 acres).

Fort Laramie A, T26N, R64W, Sec. 35, SE¼NW¼ SW¼SW¼NW¼NW¼, and ¼ mile of either side of thje trail through the E½ of Sec. 35.

Fort Laramie B, T26N, R64W, Sec. 27, SW¼SW¼SE¼.

Old Bedlam, T26N, R64W, Sec. 17, SW¼SW¼.

"Prospect" (Ryan) Hill (HS-WY-060-25), T31N, R83W: Sec. 8, SE¼SW¼, W½SE¼; Sec. 17, NW¼; Sec. 18, S½NE¼, N½SE¼, W½SW¼.

"Horse Creek", T30N, R85W, Sec. 15, E½NW¼.

Emigrant Gap, T33N, R81W: Sec. 10, SW¼NE¼.

*C3 Bozeman Trail

No surface development will be permitted on the following parcels along the Bozeman Trail in Converse County: (1,030 acres)

T. 40 N., R. 75 W.: Sec. 24, W½NE¼; Sec. 25, NE¼

T. 40 N., R. 74 W.: Sec. 31, W½NW¼

T. 38 N., R. 74 W.: Sec. 2, NE¼NE¼SW¼, N½NW¼SE¼, NW¼NE¼, SW¼NE¼, NE¼NW¼, SE¼NW¼.

T. 39 N., R. 74 W.: Sec. 34, NE¼, E½E½NW¼, E½SE¼; Sec. 35, SW¼, SW¼NW¼

T. 36 N., R. 74 W.: Sec. 22, E½E½NE¼.

Each trail segment has been individually evaluated according to the "Guidelines for the evaluation of Historical Wagon Trails" of the Casper District and Wyoming State Office, BLM.

C4: Establishment of Data Base

A data base will be developed for Natrona, Platte, and Goshen counties using a predictive model for indentifying areas of high, medium, and low probability for the presence of cultural resources. Continued Class III inventory would probably be required only for high and medium probability areas.

C5: Historic Sites Inventory

Class III historic sites inventories will be conducted to gather data for management needs on the Texas Trail and the Mormon Trail. Specific identifiable remnants of these trails will be protected by a 600-foot buffer on each side of the trail segment.

*C6: Protection of Cultural Sites

Surface development will not be permitted on the following sites, and they will be assessed for stabilization and management needs.

AR-49-06-165, (48NA227), T33N, R86W: Sec. 27, SE¼NE¼

AR-49-06-171, T38N, R83W: Sec. 20, NE¼NE¼

AR-49-06-126, (48NA84), T40N, R84W: Sec. 10, SE¼NW¼

Rock Cairn Trail (South Big Horn Mountains) (general location only)

Energy and Minerals

M1: Oil and Gas

BLM-administered lands will remain open to oil and gas leasing and exploration subject to the following provisions:

Oil and gas leasing and development are subject to the planning decisions in this appendix, as they may apply, and to the stipulations in appendix C.

Where new oil fields are anticipated or old fields are to be expanded on BLM-administered public land, the BLM, in consultation with the oil company, will prepare oil field plans to minimize impacts on other resource uses and the environment.

No leasing will occur within Naval Petroleum Reserve No. 3. Lands within one mile of this reserve are under restricted oil and gas leasing.

The following tracts will not be leased for oil and gas. These parcels have been removed because of resource considerations.

T.31N., R. 83 W.: Section 25, W½NW¼; Section 26, E½E½, SE¼NE¼, W½, W½SE¼

T.39N., R80 W.: Section 20, S½NE¼, E½SE¼, S½NW¼, N½SW¼, W½SE¼, SE¼SE¼; Section 21, N½, N½S½, S½SE¼, SE¼SW¼; Section 28, NW¼NW¼, SW¼NE¼.

T. 40 N., R. 77 W.: Section 15, S½SW¼; Section 22, E½NE¼, SE¼NW¼.

M2: Coal

Federal coal land, as identified in the Converse County Coal Amendment (USDI, BLM 1983a), can be further considered for leasing through the competitive leasing program, emergency leasing, lease modifications, or exchanges. The following paragraphs discuss land use decisions resulting from the Converse County coal amendment.

Coal leasing will be deferred in known geologic structures (KGSs) where coal development would interfere with oil and gas operations and the economic recovery of the oil and gas resource, except where it can be shown that economic recovery of oil and gas, and oil and gas operations, have been or will be completed before coal mining operations would begin.

All federal coal lands with mining claims are acceptable for coal development and for further consideration for existing leasing subject to valid existing rights.

Federal coal lands within the Orpha Stock Trail Driveway are acceptable for further consideration for coal leasing or exchange, subject to stipulations and mitigation requirements that would resolve any conflicts, unless the withdrawal is revoked.

All federal coal lands overlying shallow aquifers, including those within the Fort Union and Wasatch aquifers, are acceptable for further consideration for coal leasing.

M3: Salable Minerals

Mineral materials such as sand and gravel, moss rock, flagstone, and scoria will be available on demand for sale and for free use, subject to conditions and stipulations developed case by case so that efficient use can be made of the mineral resource. Materials in all low, moderate, and high potential areas are available except those in an area within ϕ mile of the North Platte River for its entire length in the PRRA.

Where possible, the routing of access roads will be made in conjunction with the surface owner.

M4: Locatable Minerals

All mineral estate, except in areas specifically withdrawn from mineral location, will remain open for prospecting for and development of locatable minerals. Development is subject to the regulations contained in 43 CFR 3809.

The following areas are withdrawn from mineral location.

- Public water reserves
- North Platte River protective withdrawal
- Leased or patented recreation and public purpose lands
- Muddy Mountain Recreation and Environmental Education Area
- Pathfinder Wildlife Refuge
- Naval Petroleum Reserve No. 3

Fire Management

FM1: Prescribed Burning

Full suppression will be maintained throughout the resource area as directed by the NFYP.

Prescribed burning will be implemented to control sagebrush on areas identified as needing treatment in existing AMPs. Burning will not be permitted in pheasant habitat.

FM2: Heavy Equipment Use on Historic Trails

Heavy equipment will not be used to construct firelines in areas containing wagon ruts of the Oregon and Bozeman trails. Cultural resource specialists or area resource specialists will be consulted for locations of identified wagon ruts before the use of or anticipated use of heavy equipment. Exceptions may be permitted for the protection of human life.

Heavy equipment will not generally be used to construct firelines in elk critical winter range. The PRRA wildlife biologist will be consulted when fires threaten elk critical winter range. If heavy equipment is used, rehabilitation work on lines will begin immediately after the fire is declared out.

FM3: Fire Suppression in Bald Eagle Roost Areas

To the extent possible, trees will not be cut during fire suppression in bald eagle roost areas or within 200 yards of the roosts on Casper Mountain (Jackson Canyon and Little Red Creek) and on Pine Mountain. Exceptions will be permitted when necessary to control fires that threaten human life or private property. The PRRA wildlife biologist will be consulted when fires threaten the eagle roost areas.

Forest Management

F1: Forest Management Plans

Field reconnaissance will be conducted in Natrona and Converse counties, and forest management plans will be prepared for the following areas.

High Priority Areas

Little Red Creek: T. 32 N., R. 80 W., Sec. 24, 25, 26, and 35.

Muddy Mountain: T. 31 N., R. 79 W., Sec. 1 and 12.

Jackson Canyon: T. 32 N., R. 80 W., Sec. 7, 8, 17, and 18.

Negro Hill: T. 31 N., R. 78 W., Sec. 5 and 8; T. 31 N., R. 78 W., Sec. 13.

Deer Creek Range: T. 30 N., R. 77 W., Sec. 7, 8, and 9; T. 30 N., R. 78 W., Sec. 11, 12, and 15.

Grave Springs: T. 40 N., R. 87 W., Sec. 1, 11, 12, 13, and 34.

Low Priority Areas

Baldy Ridge: T. 28 N., R. 72 W., Sec. 6; T. 29 N., R. 72 W., Sec. 17, 18, 19, 20, 29, 30, 31, and 32; T. 29 N., R. 73 W., Sec. 24, and 25.

Wagonhound: T. 30 N., R. 73 W., Sec. 7, 18, 19; T. 30 N., R. 74 W., Sec. 24, 25.

Douglas NE: T. 33 N., R. 68 W., Sec. 2, 3, 4, 5, 9, 19, 28, 31, and 33; T. 34 N., R. 68 W., Sec. 27, 34; T. 33 N., R. 69 W., Sec. 25.

Banner Mountain: T. 31 N., R. 77 W., Sec. 1, 2; T. 32 N., R. 77 W., Sec. 25, and 26.

Bates Hole: T. 30 N., R. 79 W., Sec. 4, 5, 6, 7, 8, 9, 17, 18, 19, 20, 26, 27; T. 31 N., R. 79 W., Sec. 31, 33, 34; T. 30 N., R. 80 W., Sec. 1, 2, 3, 11, 12, 13, 14, 24, 25, 27, 34, 35.

A stage II inventory will be completed on approximately 3,000 acres of productive forestlands, and 4,750 acres of productive forestlands will be managed. "Stage II" is an intensive inventory of specific forest stands.

F2: Allowable Cut

The current annual harvest level is 525 mbf. This level provides for strong emphasis on pine beetle management at Little Red Creek only. This level will continue for the next three to five years.

Pine beetle management efforts consist of cutting stands down to 80 square feet of basal areas. This practice opens the stand and removes old growth, leaving healthier, more vigorous trees and upsetting the optimum beetle habitat conditions. The present management of pine beetle control consits of direct harvest in high density beetle areas. The accelerated harvest schedule will be completed in five years, at which time a maintenance program would begin.

F3: Harvest in Muddy Mountain EEA

The annual harvest of 25 mbf for posts and poles in the Muddy Mountain EEA forest demonstration area which is included in the current annual harvest level for the PRRA, will be used to help meet public demand for posts and poles. This harvest level will continue for only three to four years in areas now available.

F4: Forest Demonstration Area

Thinning will be done on approximately 75 acres of regeneration in the Muddy Mountain forest demonstration area. Additional thinnings will be made at 10 to 20 year intervals until approximately 180 trees per acre remain.

Grazing Management

G1: Grazing Lease Administration

We will maintain 407 leases authorizing 203,704 AUMs of livestock forage on 1,442,753 acres of public land.

We will continue, and revise where necessary, the Bates Creek and Table Mountain AMPs. No new AMPs will be prepared.

Development of range improvement projects would favor livestock forage production. The following long-term projects are planned over a period of 75 years: 19,975 acres of brush control, 132 reservoirs, 24 wells, 43 springs, and 95 miles of fencing. Projects to be completed between 1985 and 1995 are 2,000 acres of brush control, 16 reservoirs, 3 wells, and 12 miles of fence. These would be placed on "I" and "M" allotments. "C" allotments would be monitored.

G2: Weed and Pest Control

We will continue the existing weed and grasshopper control programs. Prairie dog towns may be poisoned unless a sighting of a black-footed ferret has been documented within the past five years or unless U.S. Fish and Wildlife Service indicates that maintainence of the town is essential to survival of the ferret.

G3: Stock Driveways

Stock driveways will be utilized to the fullest extent possible, and standards will be developed for livestock use other than trailing. Where there is an established stock driveway and it is not being used for trailing, action will be taken to cancel its withdrawal as a stock driveway and to fence it into adjacent allotments or to issue permanent leases to adjacent BLM lessees. Where stock driveways are only slightly used for trailing and not fenced, the BLM will take action to lease the driveway to the grazing lessee whose lease adjoins the area, with some AUMs reserved for trailing. Where there is forage left after the trailing period on fenced stock driveways, these areas might be leased for supplemental use on a year-to-year basis. All other driveways would be used exclusively for trailing livestock.

Lands

L1: Land Disposition

Recreation and Public Purposes Act

A total of 920 acres has been specifically identified for lease or disposal under the R&PP Act as follows: Casper Mountain, 480 acres; Glendo Reservoir, 120 acres; Gray Rocks Reservoir, 120 acres; Torrington tract, 160 acres; Natrona County School District site, 40 acres. These lands have been so identified because of their location within high use recreation areas or near to communities.

An additional area of 200 acres within Casper's projected growth boundary has been identified for disposal under the R&PP Act, but if no R&PP lease or disposal is made by 1985, these lands will be disposed of first by exchange if possible, or by sale.

Any other public lands in the resource area can be considered case by case when a definite need for the land is identified and the requirements of the R&PP Act can be met.

Sanitary landfilling is the most common method of solid waste disposal in the PRRA. Public lands are frequently leased for landfills under the R&PP Act. Sites in the following areas have been identified as potential landfill sites or problem areas: Arminto, Hiland, and Waltman; Badwater; Raderville; Powder River; Medicine Bow Highway (U.S. 487); Hartville-Sunrise; and Chugwater Creek. In most of these areas, either there is a problem such as indiscriminate or trespass dumping or the existing waste disposal facility is inadequate.

Exchanges

Exchanges are used to acquire state and private lands to enhance BLM management opportunities. The BLM would like to acquire land through exchange in the following 33 selected areas.

> The North Platte River, Muddy Mountain EEA, Muddy Mountain elk habitat area, Muddy Mountain blue spruce area, other lands on Muddy Mountain, Jackson Canyon, Red Wall, South Big Horns, Rattlesnake Range, Sage Creek Stage Station (Bozeman Trail), Brown Springs Stage Station (Bozeman Trail), Cheyenne River Stage Station (Bozeman Trail), five segments of the Bozeman Trail, Willow Springs Campsite and Pony Express Station (Oregon Trail), Ryan Hill (Oregon Trail), Alkali Slough (Oregon Trail), Richard's Bridge Hisoric District (Oregon Trail), Emigrant Trail Segment South (Oregon Trail), Deer Creek Canyon, Baldy Ridge, Wagonhound Gorge, LaBonte Creek Canyon (West Fork), LaPrele Reservoir and Creek, School Section Mountain, Cottonwood Creek, Squaw Mountain, Upper Laramie River, Pine Ridge, Deer Creek Park, Fremont Canyon, Bates Creek, Bishop, and watershed areas where an extreme need for reclamation is identified.

These areas are considered to have high recreation use or good potential for recreation development, or they contain important wildlife, cultural, scenic, natural, open space, or other resource values.

Public land tracts that are not critical to current management objectives would be disposed of to acquire land in these areas as exchange opportunities arise. Some lands have been identified for disposal to acquire specific private land tracts. The legal descriptions of specific exchange lands are on file in the PRRA office in Casper.

Sales

Isolated parcels of public land will be disposed of according to the following priorities: first, as exchange stock to "block up" other public lands; second, as trade stock to acquire critical tracts of private land; and third, for public sale. A total of 29,000 acres in Converse, Platte, Goshen counties can be considered for disposal.

Agricultural Development

Lease or disposal of suitable public land in Natrona County will be permitted for agricultural development, provided that lands in the Buffalo Creek area are developed only under a lease. BLM-administered surface adjacent to big game winter ranges will not be used for agricultural purposes.

*L2: Withdrawals

Existing MFP decisions identify certain areas for establishment of protective withdrawals. The objective of such withdrawals is to protect and preserve important resource values and land uses by excluding mining. Some limitations apply, such as completing intensive mineral investigations or delaying withdrawal action on cultural sites until the lands are listed on the National Register of Historic Places. The following areas have been so identified:

> Red Wall; Fremont Canyon; Pterodactyl Tracks; elk habitat areas; Squaw Mountain; historic trail segments where ruts are still intact, stage station sites, and historic sites; Deer Creek Canyon; Wagonhound Gorge; Baldy Ridge; Upper Laramie River; Muddy Mountain; Table Mountain; Bates Creek; Bates Creek Reservoir; and Bishop's Point.

L3: Corridors

Two types of corridors are present in the resource area. Established corridors are those where existing major or nonmajor facilities are in place, and designated corridors are areas that are specifically identified in the MFPs for placement of major rights-of-way.

Right-of-way corridors have been designated in accordance with the corridor concept in Section 503 of FLPMA. The selection of corridors for designation in the resource area was based on a 1977 corridor study. The corridors are around and adjacent to existing major facilities such as highways, county roads, and routes of pipelines and power lines.

The overall objectives of corridor designations are to minimize the proliferation of separate rights-of-way, to protect the environment, and to minimize impacts on existing and future land uses.

Confinement of rights-of-way to the following designated corridors will be encouraged:

> U.S. Highway 87, except for the Midwest-Edgerton area; Interstate 25 east of Casper and north of the Teapot vertical altitude benchmark; U.S. Highway 20-26 west of Casper (1 to 3 miles wide); Wyoming Highway 387, excluding the segment from the U.S. Highway 87 junction to 3 miles northeast of Edgerton; Poison Spider Road (1 to 2 miles wide); Oregon Trail Road (1 to 2 miles wide); Bureau of Reclamation lines north of the North Platte River (electric lines only); and Wyoming Highway 59.

Placement of compatible facilities adjacent to existing facilities in outlying areas will be encouraged.

Placement of lineal facilities in the following areas will not be allowed:

> Highway 220 from Bessemer Mountain to Alcova; I-25 in Ts. 37, 38, 39 and 40 N., Rs. 79 and 80 W; Rattlesnake Range; Pine Ridge and west of Pine Ridge; Red Wall and the South Big Horns; Muddy Mountain elk winter range; within ϕ mile of the North Platte River; Jackson Canyon ACEC; Squaw Mountain; and Midwest and Edgerton except for utility lines serving these towns; necessary roads, and rights-of-way necessary for operation of the Salt Creek oil field.

L4: Access

Current MFP decisions call for the BLM to pursue acquisition of easements or cooperative agreements on the roads identified in the next paragraph. Some limitations apply to certain roads; for example, no easements will be acquired in some areas until management plans are completed; in other areas, cooperative agreements will be sought immediately until long-term easements can be acquired. These proposed easements were identified in the MFP by individual specialists and through an interdisciplinary team approach. The list represents an effort to maximize public access to public lands.

The areas where loads were identified for acquisition of easements are Corral Creek, Bates Creek Reservoir, Natrona, Shelly (no. 1), Shelly (no. 2), Big Sulphur, Alkali Trail, Hitt, Cloud Creek, Bucknum, Horse Ranch, Snodgrass, Bessemer Mountain, Murphy Creek, Soda Lakes (Sand Dunes no. 1), Sand Dunes no. 2, no. 3, and no. 4, Canyon Creek, Muddy Mountain ski and snowmobile trails, LaPrele Reservoir (West Shore), LaPrele Reservoir (East Shore), LaPrele Creek, Kerfoot Creek, Diamond Ring Ranch, Smith Creek, Pine Ridge ν1 and ν2, North Platte River Nos. 1 through 10, School Section Mountain, Upper Laramie River, Squaw Mountain, Cottonwood Creek, Deer Creek Canyon, Baldy Ridge, Wagonhound Gorge, and LaBonte Creek Canyon.

The roads listed cross approximately 148 miles of state and private land. The legal descriptions and lengths do not include public land.

Recreation Management

*R1: Recreation Area Management Plans

We will continue to implement completed RAMPs per the management objectives and decisions defined for the following areas.

***Muddy Mountain**

The Muddy Mountain activity plan, which was completed in 1977, provides planning decisions for preserving the natural character and wildlife habitat of 12,000 acres of BLM land in areas identified as the Muddy Mountain EEA, North Rim, Corral Creek Canyon, West Rim, Baldy Knob, and the East End. The plan sets forth actions necessary to manage public use so that resource damage and conflicts are minimized. Areas included are recreation, public access, visitor control and environmental protection, information, interpretation, special recreation use permits, wildlife, timber, range, minerals, lands, and fire management.

***Goldeneye Wildlife and Recreation Area**

The Goldeneye plan provides for the cooperative management of 733 acres of BLM land, 280 acres of state land, and 140 acres of private land, or a total area of 1,153 acres. Included in the total acreage is a 488-acre reservoir. The management program sets forth actions for recreation (hunting, fishing, picnicking), wildlife (trout fishery, bird habitat), livestock grazing, mineral activities, and lands actions. The plan permits no surface development within the boundary of the recreation area unless the development would facilitate recreational use or enhance wildlife habitat.

Appendix B

Middle Fork Management Area

The Middle Fork Management area lies in Natrona County (21,600 acres), Washakie County (7,000 acres), and Johnson County (57,560 acres). Washakie and Johnson counties are in other resource areas. A recreation plan is already being implemented in the Johnson County portion of the area. The PRRA will cooperate with the Buffalo Resource Area in managing the Natrona County portion of the Middle Fork Management Area. The plan provides for a high quality multiple activity recreation area for public enjoyment while protecting high value resources, assuring permanent access, and maintaining other compatible resource uses. Emphasis in the PRRA-Buffalo cooperative management of the Natrona County portion will be on protection of wildlife habitat, access, and protection of cultural resources.

RAMPs will be developed as described for the 12 areas listed.

Grave Springs and Buffalo Creek

Minimum maintenance and use supervision will be provided for Grave Springs and Buffalo Creek during the summer camping season.

Fremont Canyon and Fiery Narrows

An activity plan will be prepared for Fremont Canyon and Fiery Narrows once mineral withdrawal or acceptance to the National Register has been achieved. National Register designation and subsequent management would facilitate a level of protection for this resource consistent with its inherent recreational and historical value.

T. 29 N., R. 83 W., Section 9 and the W½ of Section 4 will be withdrawn from locatable mineral entry.

A land exchange will be considered for the following private lands adjacent to the Fremont Canyon area: T. 29 N., R. 83 W: Section 7, 160 acres; Section 8, 160 acres; Section 17, 480 acres; Section 18, 240 acres; Section 19, 240 acres; and Section 20, 240 acres, for a total of 1,520 acres.

Bessemer Mountain

We will identify landowners and lessees affected by RAMP action at Bessemer Bend. We also will meet with local school teachers and officials regarding historical interpretation facilities, and we will determine whether an access easement can be obtained from the private landowner in T. 32 N., R. 81 W., Section 8.

Casper Sand Dunes

Specific recommendations will be developed concerning public access through the use of cooperative agreements. Areas with potential for environmental education will be identified. Potential and suitable locations for ORV use will be determined.

North Platte River

The North Platte River activity plan provides for the management of 200 acres of public land contiguous to the river between Alcova and Casper. Camping, fishing, boating, hunting, and limited ORV use would be included. Minimal recreaion management and site developments are already provided for the seven Trappers Route canoe sites, Bessemer Bend Historic Site, and Emigrant Gap.

Field inventories will be conducted to monitor use by visitors and resource degradation. Boundary signs will be placed on public land, and hazards on the river will be identified. Before signs are placed on private surface, written agreements with landowners will be obtained.

To facilitate the management of the 200 acres included in the plan, surface development other than recreation facilities will not be allowed on the land listed below, some of which is adjacent to the area to be actively managed. The tracts also will be protected from future disposal.

> Site F1: T34N, R76W, Sec. 31, SW¼; site F2: T34N, R76W, Sec. 34, SE¼SE¼; site F3: T33N, R74W, Sec. 2, SW¼SW¼; site F4: T31N, R71W, Sec. 5, NE¼SE¼; and site F5, T31N, R71W, Sec. 23, NE¼NW¼.

Easements or land exchanges will be obtained to provide access after the RAMP is completed.

We will attempt to acquire river frontage in T. 33 N., R. 72 W., to provide a stopover point for river floaters. The need for this river frontage should be kept in mind when exchanges of other BLM-administered land are arranged.

We will try to arrange cooperative agreements with Converse County and the Wyoming Highway Department so that parking facilities and boat launching and landing sites can be provided on bridge rights-of-way held by the county and the state.

Deer Creek Canyon, Wagonhound Gorge, LaPrele Creek, and School Section Mountain

Plans will be developed for Deer Creek Canyon, Wagonhound Gorge, LaPrele Creek, and School Section Mountain, in that order. Plans should be completed before access is provided.

Timber cutting will be restricted until RAMPs are completed.

Easements or land exchanges should be obtained after each RAMP is finished so that existing public roads are connected with each area as public needs justify.

These areas will be closed to ORV use except for the roads or trails needed for access.

Proposals for BLM protective withdrawals will be considered for these areas during RAMP preparation.

For LaPrele Creek, we also will try to obtain land along the eastern shore of LaPrele Reservoir in Sections 33 and 34, T. 32 N., R. 73 W., and to obtain an easement necessary to allow vehicular access from the Cold Springs Road to the areas along the western shore of the reservoir that are suitable for launching several boats. We also will try to obtain land along LaPrele Canyon between the terminus of the Natural Bridge Road and the LaPrele Reservoir Dam (Section 21, T. 32 N., R. 73 W.).

Cottonwood Creek

Timber cutting in the Cottonwood Creek area will be restricted until the RAMP has been completed.

Easements or land exchanges should be obtained after the RAMP is finished so that existing public roads are connected with each area as public needs justify.

This area will be closed to ORV use except for the roads or trails needed for access.

We will try to acquire ¼ mile of access in the SW¼SW¼, Section 14, T. 27 N., R. 70 W.

R2: Off-Road Vehicles

The ORV designations listed in the ORV plan for Natrona County will apply. An ORV designation plan will be developed for the remaining public lands in the PRRA. Table R7, in the "Recreation" section of chapter 3, details the designations.

Appendix B

A cooperative access agreement should be developed to provide public access to the Casper Sand Dunes before areas are designated open, closed, or restricted to ORVs.

Deer Creek Canyon, Baldy Ridge, Wagonhound Gorge, LaBonte Creek Canyon (West Fork), LaPrele Creek, and School Section Mountain will be closed to ORV use except for roads or trails needed for access.

Laramie River, Lower Mule Creek Canyon, Squaw Mountains, and Cottonwood Creek will be closed to ORV use except for access roads.

**R3: Environmental Education Areas*

Continued use for educational purposes will be permitted on the following tracts: T. 33 N., R. 80 W., Section 15, S½NS½ and NW¼SE¼; and T. 34 N., R. 78 W., Section 25, E½NE¼, Section 26, SE¼SW¼. No surface development will be permitted on these tracts. These tracts are available for R&PP use and may be considered for disposal after 1985.

**R4: Visual Resource Management*

We will apply the BLM's VRM system in the PRRA.

Soil, Water, and Air

SWA1: Watershed Plans

Sensitive drainages in the PRRA have been assigned the following priorities. This listing will provide guidance in establishing management for these watersheds. Watershed management plans are discretionary for all drainages listed except Bates Hole.

Washout Creek*
Ledge Creek*
Bear Creek*
Bolton Creek*
Stinking Creek*
Cloud Creek
Salt Creek**
Anderson Draw
Upper Bates Creek
Cave Gulch
Okie Draw
Alkali Creek (near Lysite)
Teapot Creek**
Castle Creek
Lower and Upper Badwater Creek
Bull Cedar Draw
Dead Dog Draw
Stove Gulch
Red Creek*
Little Red Creek*
Indian Creek
Headwaters of Wallace Creek
Buffalo Creek
Aspirin Creek
Alkali Creek
Corral Creek

Drainages followed by an asterisk have been included in the Bates Hole Watershed Plan; drainages followed by two asterisks are included in the Salt Creek Drainage ACEC Management Plan.

A short-term surface water inventory and the long-term stream monitoring portions of the Level II survey will be continued throughout the resource area until a statistically reliable base of information is available.

Intermediate stream monitoring (short-term surface water inventory portion of the Level II survey) will be continued as listed in table B-1.

Long-term stream monitoring stations (long-term stream monitoring portion of the Level II survey) will be established in cooperation with the Geological Survey, U.S. Department of the Interior. The streams to be monitored are listed in priority order in table B-1.

**SWA2: Surface Water Protection*

For the protection of surface water, surface development is prohibited in the following areas: within ¼ mile of the North Platte River; within 600 feet of the Laramie River; within 500 feet of live streams, lakes, reservoirs, and canals and associated riparian habitat; within 200 feet of intermittent and ephemeral streams, as identified on USGS 7½-minute topographic maps; within 500 feet of water wells; and within 660 feet of springs or artesian and flowing wells. These distance restrictions may be waived in writing by the district manager if potential impacts can be acceptably mitigated. The ¼-mile limitation is not to be waived on the Trappers Route tracts.

**SWA3: Soil Protection*

Surface development is not permitted from December 30 to June 1 in the South Fork Powder River drainage, Coal Mountain-Twin Buttes area, Pine Mountain, Rattlesnake Range, Holiday Draw, Badwater-Deadman Butte area, Pine Ridge, and Bear Peak.

Surface development is not permitted from November 30 to June 1 on Muddy Mountain or from October 1 or first lasting snow to June 1 in South Big Horn Mountains. The limitation does not apply to maintenance of existing facilities, and seasonal limitations may be waived in writing by the district manager.

SWA4: Slope Restrictions

No occupancy or other surface disturbance is allowed on slopes of mre than 25% without written permission from the district manager. When disturbance is proposed on slopes of more than 15%, engineered drawings for construction, drainage design, and final contours proposed after rehabilitation will be required.

**SWA5: Cedar Ridge*

Because of fragile watershed conditions, no surface development is allowed on Cedar Ridge without the written permission of the district manager.

Appendix B

TABLE B-1
BLM SURFACE WATER MONITORING SITES

Name of Site	Legal Description
INTERMEDIATE MONITORING	
Sioux Creek	T40N, R89W, Sec. 33, SW1/4NE1/4
Alkali Creek	T37N, R89W, Sec. 5, NE1/4NW1/4
Badwater Creek	T39N, R88W, Sec. 22, NE1/4NE1/4
Badwater Creek	T39N, R88W, Sec. 29, SE1/4NW1/4
Red Creek	T38N, R87W, Sec. 19, SE1/4SW1/4
Dry Fork Badwater Creek	T39N, R88W, Sec. 33, NW1/4NE1/4
Aspirin Draw	T35N, R86W, Sec. 9, NW1/4NW1/4
Wallace Creek	T34N, R86W, Sec. 6, SE1/4NE1/4
South Fork Powder River	T35N, R85W, Sec. 4, NE1/4SW1/4
Horse Creek	T30N, R85W, Sec. 1, NW1/4NE1/4
Cottonwood Creek	T38N, R84W, Sec. 34, SW1/4SE1/4
Okie Draw	T37N, R84W, Sec. 8, SE1/4SW1/4
Cave Gulch	T37N, R84W, Sec. 29, SE1/4NW1/4
Alkali Creek	T39N, R83W, Sec. 4, NE1/4SW1/4
Indian Creek	T38N, R83W, Sec. 34, NE1/4NW1/4
Anderson Draw	T38N, R83W, Sec. 34, SE1/4NW1/4
Cloud Creek	T39N, R82W, Sec. 23, NW1/4NW1/4
Bolton Creek	T31N, R81W, Sec. 25, NE1/4NE1/4
Bear Creek	T30N, R81W, Sec. 25, NW1/4SE1/4
Washout Creek	T30N, R82W, Sec. 1, SE1/4SW1/4
Ledge Creek	T30N, R82W, Sec. 15, NE1/4NW1/4
Little Red Creek	T31N, R80W, Sec. 9, NE1/4NW1/4
Big Red Creek	T31N, R80W, Sec. 16, SW1/4SE1/4
Corral Creek	T31N, R80W, Sec. 22, NW1/4SW1/4
Stinking Creek	T28N, R80W, Sec. 15, NE1/4NW1/4
Stinking Creek	T29N, R80W, Sec. 6, NW1/4SE1/4
Stinking Creek	T31N, R81W, Sec. 14, NW1/4SW1/4
Bates Creek	T30N, R79W, Sec. 29, NW1/4SE1/4
Bates Creek	T31N, R80W, Sec. 34, SW1/4SW1/4
Bates Creek	T31N, R81W, Sec. 11, NW1/4SE1/4
Elk Creek	T29N, R80W, Sec. 6, SW1/4NE1/4
Salt Creek	T40N, R79W, Sec. 24, NW1/4NW1/4
Salt Creek	T39N, R78W, Sec. 16, SW1/4SE1/4
Castle Creek	T39N, R79W, Sec. 14, SE1/4NW1/4
Meadow Creek	T42N, R78W, Sec. 19, SE1/4NW1/4

(continued on next page)

TABLE B-1
(CONTINUED)

Name of Site	Legal Description
LONG-TERM MONITORING	
Priority 1	
North Platte River near Goose Egg	T32N, R81W, Sec. 22, SW1/4SW1/4
Powder River near Sussex	T43N, R79W, Sec. 13, SE1/4NW1/4
South Fork of Powder River near Kaycee	T43N, R81W, Sec. 13, NW1/4SW1/4
Salt Creek near Sussex	T42N, R79W, Sec. 8, NE1/4SE1/4
Stinking Creek near the Body Ranch	T29N, R80W, Sec. 18, NE1/4NE1/4
Priority 2	
Stinking Creek	T31N, R80W, Sec. 29, NE1/4SW1/4
Lawn Creek	T29N, R80W, Sec. 7, SE1/4SE1/4
Upper Bates Creek	T31N, R80W, Sec. 20, NW1/4NE1/4
Corral Creek	T31N, R80W, Sec. 17, SW1/4SE1/4
Priority 3	
Castle Creek	T39N, R79W, Sec. 15, SW1/4NE1/4
Upper Salt Creek	T38N, R77W, Sec. 6, SW1/4NW1/4
Dry Fork of Badwater Creek	T39N, R88W, Sec. 33, NW1/4NE1/4
Badwater Creek	T39N, R89W, Sec. 15, NE1/4NE1/4
Priority 4	
Indian Creek	T38N, R83W, Sec. 23, NW1/4NE1/4
Cloud Creek	T39N, R82W, Sec. 15, NE1/4SE1/4
Alkali Creek	T37N, R89W, Sec. 5, NW1/4NE1/4

SWA6: Winter Construction

Snow and ice are not to be mixed with subsoil material during construction of surface facilities.

SWA7: Fencing of Reseeded Areas

Disturbed sites will be fenced with sheep-tight fence for two growing seasons to prevent grazing, if fencing is prescribed by the area manager.

SWA8: Reseeding

All disturbed sites are to be reseeded. Fall seeding of each disturbed site should be completed after September 1, and before ground frost. Spring seeding should be completed after the frost has left the ground, and before May 15. Seed mixture, application rate, and planting depth for each action will be defined by the area manager.

SWA9: Fragile Areas

The following designated fragile areas are to be assessed so that site-specific protection guidelines can be developed: Alcova Rim; Mikes Draw, T. 37 N., R. 83 W.; Head of Small Creek, T. 36 N., R. 82 W.; and in T. 38 N., R. 82 W., Section 4, and T. 39 N., R. 82 W., Sections 33 and 34.

SWA10: Rims and Gorges

Surface development will not be allowed within the rims of the following canyons and gorges: Deer Creek Canyon, Box Elder Creek Canyon, Rock Creek Canyon, Wagonhound Gorge, Brighton Canyon, Baldy Ridge and Peak, and Goshen Hole Rim.

SWA11: Bates Hole Watershed Plan

A plan was developed for the Bates Hole area of southeastern Natrona County to identify sources of heavy sediment loads in the North Platte River. To date, Bolton Creek, Ledge Creek, Bear Creek, Washout Creek, Stinking Creek, and Big Red Creek have been identified as drainages of concern. We will try to determine the casues of the erosion (geologic or accelerated) and attempt to reduce or eliminate accelerated erosion. Any attempts to reduce heavy sediment loads will be based on cost-benefit analysis.

Sediment yields will continue on Stinking Creek, Elk Creek, Red Creek, Bear Creek, and Bolton Creek.

Short-term, intermediate, and long-term stream monitoring surveys (Level II) will be continued on these streams and drainages as defined in SWA 1.

Wildlife

**WL1: Habitat Management Plans*

The PRRA currently manages three wildlife areas. Table Mountain and Springer/Bump-Sullivan are managed in co-operation with the Wyoming Game and Fish Department through the implementation of completed HMPs. A draft preliminary plan has been prepared for Jackson Canyon, which is managed solely by the BLM.

For Table Mountain (1,540 acres), no surface development is allowed except for wildlife improvements. Improvements now in place are 10 reservoirs, islands constructed in reservoirs, 12 shelterbelts, approximately 150 goose nest structures installed in ponds and on islands, aerators in reservoirs 1 and 8, and fences.

We will seek to acquire 20 acres through exchange. This acquisition would increase duck and pheasant nesting habitat and provide a buffer zone to protect a pond that serves as a resting area for geese.

For Springer/Bump-Sullivan (600 acres), no surface development is allowed except for wildlife improvements. Reservoirs, fences, shelterbelts, and goose nest structures are now in place in this area.

Jackson Canyon is described in the "Special Designations" section near the end of this appendix.

HMPs are to be prepared for Bates Creek Reservoir, Bates Creek aquatic habitat, Dry Fork LaPrele Creek, LaBonte Creek, Upper Laramie River, Teal Marsh Reservoir, Bishop Waterfowl Habitat, Thirty-three Mile Reservoir, Pine Ridge, Walker Creek Ridge, Baldy Ridge, Hartville Uplift, and Squaw Mountain.

For Bates Creek Reservoir, we will seek a withdrawal for 1,800 acres and pursue acquisition of 3 miles of access across state land. No additional land is needed.

For Bates Creek aquatic habitat (700 acres) we need to obtain access of ¼ mile, acquire 120 acres of stream habitat and 30 acres for access, and seek a withdrawal on 700 acres. We need to plant stream bank cover on 1 mile along Bates Creek and protect that planting by fencing to exclude livestock.

For Dry Fork LaPrele Creek (1,000 acres), we will retain the area in federal ownership, permit timber sales, and allow no ORV use. There will be no leasing for oil and gas development.

For LaBonte Creek (40 acres), we need to acquire 2 to 3 miles of access. No ORV use will be permitted.

For the Upper Laramie River (600 acres), we need to obtain easement for 1.2 miles of road and for 0.25 mile for fishing walk-in. We also will construct a parking area.

For Teal Marsh Reservoir (80 acres), no additional access or land acquisition is needed. The stock driveway classification is sufficient to retain the land.

For Bishop Waterfowl habitat (200 acres), we need to acquire ¼ mile of access across private land and 480 acres of stream habitat. We will withdraw 200 acres from mineral exploration.

For Thirty-three Mile Reservoir, no access is needed and no land needs to be acquired. The stock driveway classification is sufficient to retain the land.

For Pine Ridge (30,000 acres), we need to install water facilities (density depends on inventory), plant browse and forb species, and implement grazing systems designed to reserve forage for deer.

For Walker Creek Ridge (7,000 acres), we will install one big game guzzler per 1,000 acres—a total of seven guzzlers.

We will retain Baldy Ridge (3,500 acres) in federal ownership and allocate sufficient forage to support wintering elk. Geophysical operations would be permitted from April 1 through November 30. We need to acquire ½ mile of access for a low standard road. The area will be closed to ORV use from November 1 through April 30. Timber sales will be allowed if they would be beneficial to wildlife and recreation.

For the Hartville Uplift (11,000 acres), we need to develop six to ten water facilities (guzzlers, seeps, or springs), plant browse and forb species, and implement grazing systems designed to reserve forage for deer.

For Squaw Mountain (2,500 acres), we will develop water facilities (2 or 3 seeps, springs, or guzzlers) and seek a withdrawal on 2,500 acres.

**WL2: Antelope Habitat Management*

Throughout antelope range in Natrona County, we will correct all fences on public land that do not meet the specifications in the *BLM Manual*, section 1737. Initial efforts will be concentrated in critical winterranges for antelope.

Permanent water sites for antelope will be provided, if water is available, in the following areas: T30N, R85W, NW¼; T30N, R86W, NE¼; T31N, R85W, SW¼; T31N, R86W, E1.2; T35N, R82W, E½; T36N, R82W, S½; T36N, R83W, N½; T37N, R82W, N½; T38N, R81W, W½; T37N, R83W.

No surface development will be allowed from November 1 through April 30 in critical antelope winter ranges. This decision can be waived by the district manager. It does not apply to maintenance of existing facilties.

**WL3: Deer Habitat Management*

No surface development will be allowed from November 1 through April 30 in critical deer winter ranges. This decision can be waived by the district manager. It does not apply to maintenance of existing facilities.

A permanent water source will be provided in deer summer range in the vicinity of the Soda Beds, T36N, R83W, Section 31.

**WL4: Sage Grouse Leks*

No surface development will be allowed within a radius of ¼ mile from the center of a sage grouse strutting ground (lek). No exceptions to this will be granted. So that the nesting area around the strutting ground can be protected, surface development will be allowed within 1¾ miles from the ¼-mile protection zone only between June 15 and March 1. Exceptions to the time limitations in any particular year may be authorized by the district manager.

**WL5: Critical Winter Range for Elk*

No surface development will be permitted on the following parcels of the Muddy Mountain critical winter range for elk—a total of 3,360 acres.

T. 31 N.; R. 78 W.
  Sec. 4: NW½W½, NE¼NW¼, E½SW¼, S½SE¼;
  Sec. 5: N½NE¼, SW¼NE¼, NW¼, NE¼SW¼, S½SW¼, W½SE¼, SE¼SE¼;
  Sec. 6: N½;
  Sec. 7: NE½SE¼;
  Sec. 8: W½, W½NE¼, SE¼NE¼, N½SE¼, SE¼SE¼;
  Sec. 9: S½, N½N½, S½NW¼;
  Sec. 10: W½SW¼;
  Sec. 15: NW¼NW¼;
  Sec. 17: N½N½.
T. 32 N.; R. 78 W.
  Sec. 31: SW¼,W½SE¼, NE¼SE¼;
  Sec. 32: SW¼, S½SE¼;
  Sec. 33: S½SW¼.

Critical winter range for elk in T31N, R78W, Sec. 9, S½NE¼ will be subject to the following stipulation.

> Lessee, by accepting and executing this lease, acknowledges that it is being issued solely for the lessee's personal reasons, at his personal request; and lessee further acknowledges that this lease is issued with the understanding that, due to the prohibition against surface occupancy on the leased and adjoining acres, extraction of the leased mineral is not practical. Therefore, lessee hereby agrees to and does waive as grounds or reasons for any appeal his inability to extract or develop the leased minerals due to the prohibition against surface occupancy contained herein.

The remaining critical winter range for elk in the resource area will be leased subject to the following stipulation:

> No surface development will be permitted from November 1 through April 30.

**WL6: Bald Eagles*

No surface development will be permitted on the following winter roosting areas for bald eagles. This is a total of 15,244.48 acres.

T. 32 N.; R. 79 W.
  Sec. 18: Lot 5;
  Sec. 19: Lots 1, 3, 5, 6, 7, 8, and 10 through 66;
  Sec. 20: Lot 5, SW¼SW¼;
  Sec. 30: Lots 1, 2, 3, 4, E½W½, S½NE¼, W½SE¼;
  Sec. 31: Lots 1, 2.
T. 32 N.; R. 80 W.
  Sec. 7: Lots, 1, 2, 5, 6, 7, 8, 9, 14, 15, 16, 17, NW¼SE¼, SW¼NE¼;
  Sec. 8: Lot 4, SW¼NE¼, SE¼;
  Sec. 9: S½;
  Sec. 10: S½SW¼;
  Sec. 13: SE¼SE¼, S½SW¼, NW¼SW¼;
  Sec. 14: SE¼, S½NE¼;
  Sec. 15: W½;
  Sec. 17: Lots 5, 6, NE¼, S½SW¼, SW¼SE¼;
  Sec. 18: Lots 5, 7, 8, 12, 13, 14, 15, 16, 17, 18, 20, 21, SE¼;
  Sec. 19: Lots 3, 6, 13, 14, 15, 16, 17, 18, 20, SW¼NE¼;
  Sec. 20: Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, NE¼;
  Sec. 21: Lots 1, 2, 3, 4, NW¼;
  Sec. 22: All;
  Sec. 23: SW¼;
  Sec. 24: W½, E½E½, SW¼NE¼, NW¼SE¼;
  Sec. 25: S½, S½N½, N½NE¼, NW¼NW¼;
  Sec. 26: E½;
  Sec. 27: Lots 1, 2, 3, 4, 6, 7, 8, 9, 10, 14, 15, 16;
  Sec. 34: Lots 1, 2, 3, 6, 7, 8, 9, 10, 15;
  Sec. 35: E½.

T. 31 N.; R. 80 W.
  Sec. 2: Lots 1, 2, 3, 4, S½NW¼, NW¼SW¼.
T. 32 N.; R. 81 W.
  Sec. 12: S½S½, NW¼SE¼, SE¼NW¼, NE¼SW¼;
  Sec. 13: All;
  Sec. 14: E½E½.

T. 33 N.; R. 81 W.
  Sec. 13: W½SW¼, SE¼SW¼;
  Sec. 14: NE¼SE¼, W½SW¼, SE¼SW¼;
  Sec. 15: S½NE¼, NW¼, N½SE¼, SE¼SE¼;
  Sec. 23: W½, S½NE¼, N½SE¼, SW¼SE¼;
  Sec. 24: NW¼, N½SW¼, SE¼, S½NE¼;
  Sec. 25: NE¼, N½SE¼, SW¼, SW¼NW¼;
  Sec. 26: NE¼, E½SE¼, NE¼NW¼.
T. 35 N.; R. 83 W.
  Sec. 19: W½SW¼.
  Sec. 30: W½NW¼
T. 34 N.; R. 84 W.
  Sec. 2: NW¼NW¼;
  Sec. 3: N½, N½S½
T. 35 N.; R. 84 W.
  Sec. 13: SW¼SE¼;
  Sec. 24: E½;
  Sec. 25: N½NE¼;
  Sec. 27: S½S½;
  Sec. 33: E½NE¼, NE¼SE¼;
  Sec. 34: All;
  Sec. 35: W½SW¼;

Leasing in the following bald eagle winter roosting areas will be subject to the stipulations shown below the legal description.

T. 32 N.; R. 80 W.
  Sec. 10: S½SE¼;
  Sec. 14: W½;
  Sec. 15: E½;
  Sec. 23: N½, SE¼.
T. 33 N.; R. 81 W.
  Sec. 23: SE¼SE¼;
  Sec. 24: W½SW¼, SE¼SW¼;
  Sec. 25: N½NW¼, SE¼NW¼.
T. 32 N.; R. 80 W.
  Sec. 8: Lots 3, 5, 6, 7, 8;
  Sec. 17: Lots 1, 2, 3, 4;
  Sec. 18: Lot 19.

Lessee, by accepting and executing this lease, acknowledges that it is being issued solely for the lessee's personal reasons, at his personal request; and lessee further acknowledges that this lease is issued with the understanding that, due to the prohibition against surface occupancy on the leased and adjoining acres, extraction of the leased mineral is not practical. Therefore, lessee hereby agrees to and does waive as grounds or reasons for any appeal his inability to extract or develop the leased minerals due to the prohibition against surface occupancy contained herein.

On the remaining bald eagle winter habitat in the resource area, no surface development will be allowed from November 1 through March 31.

No disturbance to trees or improvement in roads or legal access will be allowed in bald eagle winter ranges except as needed for fire suppression or to control pine beetle infestations. Pine beetle control efforts within bald eagle winter habitat will be conducted only from April 1 to October 31.

*WL7: Raptors

The PRRA will designate suitable buffer zones where no surface development is permitted around active nests of raptors of high federal or state interest during nesting seasons. Species identified jointly by the BLM, the U.S. Fish and Wildlife Service, and the Wyoming Game and Fish Department are bald eagle, golden eagle, osprey, peregrine falcon, prairie falcon, merlin, ferruginous hawks, Cooper's hawk, Swainson's hawk, and burrowing owl. An active nest is defined as one that has been used at least once during the previous three years.

The size of the buffer zone will be determined case by case by the BLM area biologist, who will consider topography and raptor prey habitat surrounding the nest site. Usually the buffer zone will be ¼ to ½ mile. BLM personnel will determine buffer zones for active eagle nests and for cliff nesting sites of falcons in consultation with the U.S. Fish and Wildlife Service.

Nesting seasons are as follows: bald eagle, November 1 through April 1; golden eagle, February 1 through July 15; osprey, merlin, and Cooper's hawk, April 15 through August 15; peregrine falcon and prairie falcon, March 15 through August 1; ferruginous hawk, March 15 through July 15; Swainson's hawk, April 1 through July 31; and burrowing owl, April 15 through July 15.

WL8: Turkeys

No tree cutting will be allowed in critical winter habitat for turkeys (2,360 acres).

WL9: Black-footed Ferrets

No surface development will be allowed within prairie dog towns until it is determined that the action will not adversely affect the black-footed ferret or its potential habitat. Such determination will be made through a biological assessment by the BLM or through consultation with the USFWS under Section 7 of the Endangered Species Act.

Prairie dog towns will not be treated for prairie dog control if a documented sighting of a black-footed ferret has occurred within the previous five years, or if the USFWS indicates the town is essential for survival of the ferret.

WL10: Riparian Habitat

Stream bank cover will be planted and the plantings fenced at the North Fork and Middle Fork of Buffalo Creek and the North Fork and Middle Fork of Trout Creek.

Special Designations

*SD1: Pterodactyl Track ACEC

The ACEC designation for the Pterodactyl Track ACEC will be continued, and the site management plan will be completed and implement by October 1, 1985.

Surface development will not be permitted within the ACEC boundary. This ACEC contains 1,200 acres.

*SD2: Red Wall ACEC

The Red Wall ACEC is a unique area of many significant resource values—recreation, range, mineral, cultural, historical, wildlife, visual, and natural. Recreation and wildlife program and management requirements will interfere with many other resource programs. The area was designated an ACEC in March 1980. An administrative decision made in 1982 determined that the PRRA would develop the recreation and wildlife area management plan, and that the PRRA and the Buffalo Resource Area would implement the plan jointly. No surface development is permitted within ½ mile of the Red Wall, and no disposal of public lands in this area is permitted.

The Red Wall will not be withdrawn from mineral entry until extensive analysis and a management plan show that this is the only method of protecting the area.

SD3: Salt Creek ACEC

The Salt Creek drainage to its confluence with the South Fork of the Powder River is managed as an ACEC. Salt Creek and portions of Teapot Creek that have been identified as sensitive drainages are included in the Salt Creek ACEC.

Short-term, intermediate, and long-term stream monitoring surveys (Level II) will be continued in the ACEC as defined in the "Soils, Water, and Air" section of this appendix under "SWA1: Watershed Plans."

**SD4: Jackson Canyon ACEC*

The Jackson Canyon ACEC contains 3,600 federal surface acres and 11,150 federal mineral acres, for a total of 13,760 acres in the ACEC. No rights-of-way will be permitted in this ACEC. ORV use will be allowed only on designated roads and only from April 1 through October 31. There will be no increase or improvement in roads or legal access.

Fire suppression will be conducted as needed. Beetle control will be conducted only between April 1 and October 31. Trees within 200 yards of the bald eagle roosts will not be removed. Beetle control within the 200-yard buffer zone around the roosts will be determined in an ACEC/HMP.

**SD5: Muddy Mountain Environmental Education Area*

The 1,260-acre Muddy Mountain EEA will be managed for recreation, wildlife, forest resources, and environmental education. Campgrounds, the interpretive center, and trails will be maintained.

A winter snowmobile area, a forest demonstration area, and a natural area will be provided. The 700-acre natural area will be protected from development.

**SD6: Casper Sand Dunes*

The 13,560 acres of the Casper Sand Dunes will be managed to protect fragile watershed values. ORV use is designated as limited; that is, it will be confined to existing roads and trails.

We will pursue acquisition of access to this area at one location.

APPENDIX C: STANDARD STIPULATIONS ATTACHED TO ALL OIL AND GAS LEASES

The following standard stipulations may be applied to leases in the Casper District on a case-by-case basis to deal with specific situations. Where blanks appear, specific numbers, dates, or descriptions will be inserted to suit the particular circumstances.

1. All of the land in this lease is included in (recreation or special area, etc.); therefore, no occupancy or disturbance of the surface of the land described in this lease is authorized. The lessee, however, may exploit the oil and gas resources in this lease by directional drilling from sites outside this lease. If a proposed drilling site lies on land administered by the Bureau of Land Management, a permit for use of the site must be obtained from the BLM District Manager before drilling or other development begins.
2. No access or work or road, earth cut or fill, structure or other improvement other than an active drilling rig will be permitted if it can be viewed from the (road, lake, river, etc.).
3. No occupancy or other activity on the surface of (legal subdivision) is allowed under this lease.
4. No occupancy or other surface disturbance will be allowed within __________ feet of the __________ (road, trail, river, creek, canal, etc.). This distance may be modified when specifically approved in writing by the District Manager, Bureau of Land Management.
5. No drilling or storage facilities will be allowed within __________ feet of (live water, the reservoir, etc.) located in (legal subdivision). This distance may be modified when specifically approved in writing by the District Manager, Bureau of Land Management.
6. No occupancy or other suface disturbance will be allowed on slopes in excess of __________ percent without written approval from the District Manager, Bureau of Land Management.
7. In order to (minimize watershed damage, protect important seasonal wildlife habitat, etc.), exploration, drilling, and other development activity will be allowed only during the period from __________ to __________. This limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation in any year may be specifically authorized in writing by the District Manager, Bureau of Land Management.
8. In order to minimize watershed damage during muddy and/or wet periods, the District Manager, Bureau of Land Management, may prohibit exploration, drilling, or other development. This limitation does not apply to maintenance and operation of producing wells.
9. The __________ (trail, road, etc.) will not be used as an access road for activities on this lease.
10. To maintain esthetic values, all semi-permanent and permanent facilities may require painting or camouflage to blend in with the natural surroundings. The paint selection or method of camouflage will be subject to approval by the District Manager, Bureau of Land Management.
11. One of the follwing cultural stipulations would be applied to the lease. The stipulation applied is dependent upon a record search.

Cultural Resource Stipulation 1: The lessee will not disturb the surface of the lease until a cultural resource investigation has been conducted by the BLM or a professional acceptable to the BLM for the specific area on which surface disturbing activity is planned. The results of this investigation will be submitted to the BLM State Director, and the BLM will provide stipulation for avoidance or salvage of any significant cultural resources. The cost of all investigations and salvage will be borne by the lessee.

Cultural Resource Stiupulation 2: The cultural resource investigation on this lease/permit/right-of-way indicated that buried cultural values may be present. However, surface condition of vegetation, snow, or alluvium prevented an adequate evaluation of these cultural resource values. To protect and evaluate these values the permittee/lessee/grantee will engage a professional acceptable to the BLM to observe surface disturbance through specific area as given. Section __________. Township __________ North, Range __________ West, and a report submitted to BLM District Manager within 30 days of completion of the project. If significant values are observed they will be left intact and the BLM District Manager notified to conduct an evaluation to establish suitable salvage.

Cultural Resource Stipulation 3: If any cultural values are observed during operation of this lease/permit/right-of-way, they will be left intact and the BLM District Manager notified. The District Manager will conduct an evaluation of the cultural values to establish suitable mitigation or salvage.

APPENDIX D: CURRENT GRAZING LEASES AND CATEGORIES

CURRENT GRAZING LEASES AND CATEGORIES

Number on Map	Operator		Allotment		Livestock		Season	Federal Portion of Allotment (percentage)	Federal AUMs	Allotment Category	Number of Pastures	Approximate Total Acreage
	Name	Number	Name	Number	No.	Kind						
1	Aetna Insurance	6280	Buffalo Creek	1	185	C	6-1 to 3-31	66	1,221	I	11	52,700
					4,285	S	11-1 to 6-15	66	4,245			
2	Bates Creek Cattle	6031	Two Bar	2	2	C	YR	100	25	C		
			Two Bar	2	29	C	YR	27	94	M		
			Bates Creek	3	1,191	C	5-26 to 10-15	56	3,114	I	5	34,000
3	Bentley	6033	Posvar	4	318	C	6-1 to 9-15	61	485	I	1	10,000
4	Bonar	6047	Bonar	5	8	C	YR	100	96	C		
					125	S	YR		304	C		
					10	C	YR	48	58	I		
					145	S	YR		167	I	1	3,100
5	Britain	6057	South Cave Gulch	6	620	S	12-15 to 2-27	42	125	I	1	3,900
			Powder River Draw	7	1,405	S	12-15 to 2-27	34	229	I	1	6,400
			Sand Draw	7	375	S	12-15 to 2-27	10	18	M		
			Waltman	8	170	S	5-1 to 5-30	47	16	M		
6	Burke Sheep Company	6066	Burke	9	400	C	10-1 to 6-31	44	1,585	I		
			Burke	9	4,000	S	10-1 to 6-31	44	3,170	I	15	68,800
			Cheever Flat	10	92	C	7-1 to 8-31	07	13	M		
			Cheever Flat	10	965	S	7-1 to 8-31	07	27	M		
			Merino A.T.	1001	2,200	S	11-15 to 11-24	99	147	M		
			Bucknum A.T.	1002	2,200	S	1-1 to 1-16	93	220	M		
			Hemingway	11	5,185	S	1-1 to 2-28	32	664	I	3	11,500
7	Carlson, A.L.	6094	Hiland	12	575	S	10-16 to 5-15	29	234	M		
			Railroad	13	2,345	S	5-16 to 10-15	63	1,478	I	3	15,100
			Camel's Hump	14	525	S	12-1 to 4-30	85	447	I	2	10,100
			Ellis Mountain	15	145	S	6-15 to 10-30	98	130	I	1	1,400
8	Cheney Livestock	6100	Cheney	16	32	C	1-1 to 4-30	31	40	M		
			Muddy Mountain	17	143	C	5-1 to 12-31	61	745	I	6	6,600
9	Clear Creek Cattle	6107	Clear Creek	18	481	C	YR	45	2,597	I	10	39,900
			Kantrell-Todd	19	174	C	YR	46	962	I	1	15,600
			Matador	20	428	C	YR	44	2,260	I	6	36,400
10	Cloud Creek Sheep	6111	Cloud Creek	21	25	C	12-1 to 4-30	77	96	I	1	13,300
			Cloud Creek	21	505	S	12-1 to 4-30	77	389	I	1	
			Fifty-Mile Flat	22	32	C	5-1 to 6-15	80	38	I	1	3,500
					655	S	5-1 to 6-15	80	157	I	1	
					32	C	10-16 to 11-30	80	38	I	1	
					655	S	10-16 to 11-30	80	157	I	1	
			Pine Creek	23	28	C	6-16 to 10-15	63	71	I	1	6,000
					565	S	6-16 to 10-15	63	285	I	1	
			50-Mile Flat A.T.	1003	2,100	S	11-12 to 11-21	100	140	M		
11	Coffman Ranch	6115	Coffman	24	150	C	YR	59	752	I	14	122,900
					6,915	S	10-16 to 6-30	59	6,936			
			Spring Creek	25	380	S	7-1 to 10-15	53	181	I	2	2,100
			Powder River	26	1,035	S	7-1 to 10-15	32	298	I	1	8,300
			Beck Place	27	2,230	S	12-1 to 6-30	58	1,811	I	4	33,900
12	Cummings	6423	Cummings	28	269	C	YR	45	1,455	I	5	16,000
13	Deer Creek Ranch	6071	Keg Springs Draw	29	55	C	6-1 to 8-31	27	45	M		
			South Hiland	30	558	C	5-1 to 10-31	21	704	I	3	8,100

Appendix D

CURRENT GRAZING LEASES (continued)

Number on Map	Operator		Allotment		Livestock		Season	Federal Portion of Allotment (percentage)	Federal AUMs	Allotment Category	Number of Pastures	Approximate Total Acreage
	Name	Number	Name	Number	No.	Kind						
14	Elkhorn L & L	6179	Elkhorn	31	841	C	YR	42	4,242	I	12	121,000
					4,210	S	YR	42	4,244			
15	Garrett Ranch	6213	Garrett	32	349	C	YR	46	1,928	I	7	38,500
16	Howard Farms	6184	Baskett	33	332	C	2-1 to 5-30	61	810	I	6	12,300
			Ellis Trust	34	203	C	5-1 to 10-30	74	901	I		
					470	S	12-1 to 6-15	74	452	I		
			Eagle Creek	35	425	S	7-1 to 9-15	17	36	M		
			Brian	36	617	C	11-16 to 1-31	35	540	M		
					1,930	S	9-16 to 11-15	35	270			
17	Irvine Brothers	6300	Irvine Brothers	37	784	C	YR	35	3,293	I	26	142,600
					3,925	S	YR	35	3,299			
			Cottonwood A.T.	1004	800	S	12-15 to 1-5	100	117	M		
			Lester Trail A.T.	1005	800	S	12-15 to 12-29	100	80	M		
			East Trail A.T.	1006	375	S	11-1 to 2-28	100	300	M		
			West Trail A.T.	1007	400	S	11-1 to 2-28	100	376	M		
18	Irvine Ranches	6302	Davis	38	375	C	YR	56	2,520	1		58,500
					1,880	S	YR	56	2,527			
			Begley	39	49	C	YR	64	376	I	2	9,000
					250	S	YR	64	384			
19	Marton Brothers	6308	Marton	40	234	C	YR	43	1,207	I	8	69,000
					1,750	S	YR	43	1,810			
20	McGuire, Fred	6394	Cooney Hills	41	237	C	5-1 to 6-15	72	256	I	2	7,200
					237	C	10-16 to 11-30	72	257			
21	Miles L & L	6413	Ice Cave Mountain	42	906	C	6-1 to 10-31	18	816	M		
			Alcova	43	940	C	11-1 to 5-30	52	3,422	I	8	56,400
22	Burns Land & Cattle	6416	Ervay Basin	44	673	C	5-15 to 10-31	34	1,260	I	6	21,000
23	Mills Livestock	6422	Poison Spider	45	179	C	YR	18	387			
					3,145	S	10-16 to 6-15	18	906	M		
			Bessemer Mountain	46	14	C	6-16 to 10-15	79	44	I	1	1,400
					150	S	6-16 to 10-15	79	96			
			Lone Tree	47	920	S	6-16 to 10-15	89	657	I	1	5,100
			Spruce Creek	48	2,060	S	6-16 to 10-15	4	66	C		
			Emigrant Gap A.T.	1501	1,300	S	1-10 to 1-19	100	113	M		
24	Rattlesnake Grazing	6015	Rattlesnake	49	2,041	C	5-15 to 10-30	55	6,174	I	14	73,000
					1,500	S	11-1 to 4-30	55	989			
25	Rimrock Livestock	6535	Emigrant Gap	50	50	C	10-15 to 6-15	12	48	M		
					1,000	S	10-15 to 6-15	12	192	M		
			Deer Creek	51	27	C	6-16 to 10-15	36	39	I	1	3,300
					555	S	6-16 to 10-15	36	160			
26	Robinett	6539	Stone Ranch	52	45	C	10-16 to 5-15	33	104	I	3	7,800
					530	S	10-16 to 5-15	33	246			
			Potter	53	186	C	5-16 to 10-15	79	735	I	9	18,100
					2,175	S	5-15 to 10-15	79	1,719			
27	Schmitt	6556	Little Red Creek	54	127	C	6-15 to 10-31	47	270	I	3	7,500
28	Shamrock	6563	Cloud Creek	55	120	S	10-16 to 6-30	88	177	M		
			Castle Creek	56	385	S	10-16 to 6-30	87	569	I	2	5,800

CURRENT GRAZING LEASES (continued)

Number on Map	Operator		Allotment		Livestock		Season	Federal Portion of Allotment (percentage)	Federal AUMs	Allotment Category	Number of Pastures	Approximate Total Acreage
	Name	Number	Name	Number	No.	Kind						
28	Shamrock (cont.)		3T	57	120	S	10-16 to 6-30	66	130	M		
			Mountain West	58	1,450	S	7-1 to 10-15	18	183	C		
			Mountain East	59	175	S	7-1 to 10-15	21	26	M		
29	Shepperson, K.R.	6465	South Castle Creek	60	437	C	10-1 to 6-30	52	2,049	1	4	23,700
30	Squaw Mountain	6270	Squaw Mountain	61	281	C	8-1 to 2-28	55	1,082	1	3	20,800
31	Steinle	6602	Steinle	62	139	C	5-16 to 10-15	59	412	I	2	5,400
32	Stevenson & Sons	6011	Pathfinder	63	691	C	YR	51	4,234	I	11	42,400
33	Strohecker	6609	Coyote Creek	64	88	C	6-15 to 9-30	70	217	1	1	2,400
			Strohecker	65	188	C	YR	27	611	I	7	12,600
34	Sullivan	6612	Sullivan	66	74	C	11-1 to 6-30	52	308	I	8	28,000
					1,480	S	11-1 to 6-30	52	1,232			
			Red Fork	67	50	C	7-1 to 10-31	3	6	C		
					1,000	S	7-1 to 10-31	3	24			
			West Trail A.T.	1007	100	C	11-1 to 12-26	100	187	M		
35	Teapot Ranch	6622	Teapot	68	414	C	YR	41	2,040	I	4	28,000
36	Willow Creek	6674	Willow Creek	69	163	C	YR	44	863	I	15	47,600
					3,265	S	YR	44	3,452	1	15	47,600
37	Wollen	6311	Wollen	70	259	C	YR	33	1,028	1	8	17,800
38	Allemand, R.	6002	Allemand	71	502	C	YR	16	964	M		
					2,055	S	YR	16	790			
39	Antelope Springs	6010	Antelope Springs	72	424	C	YR	49	2,495	M		
			Lone Bear	73	93	C	YR	62	694	M		
40	Body, A.	6040	Elk Creek	74	72	C	11-1 to 6-30	49	286	M		
			Texas Creek	75	36	C	7-1 to 10-31	32	47	M		
41	Body, R.	6042	Body	76	51	C	YR	50	307	M		
42	Braunschweig	6051	Braunschweig	77	748	C	YR	11	988	M		
43	Bremer	6713	North Platte	78	13	C	10-16 to 1-31	100	39	M		
44	Brewer	6053	Brewer	79	62	C	10-16 to 5-15	38	166	M		
			Goldeneye	80	6	C	10-16 to 5-15	100	47	M		
			Tie Bridge Gulch	81	203	C	10-16 to 5-15	45	640	M		
45	Brooks, B.B.	6058	Ormsby	82	463	C	YR	16	889	M		
					1,165	S	YR	16	448			
			Smith Creek	83	975	C	YR	5	585	M		
					2,450	S	YR	5	294			
46	Carlson Ranch	6135	Pine Creek	84	159	C	6-16 to 9-15	19	91	M		
			Waltman	8	90	C	5-16 to 10-31	28	139	M		
47	Clemons	6152	Clemons	85	100	C	6-1 to 10-15	18	81	M		
48	Coates	6112	Coates	86	22	C	6-1 to 1-15	38	48	M		
49	Cole Creek Sheep	6122	Cole Creek	87	279	C	YR	27	904	M		
					2,795	S	YR	27	1,811			
50	Collins, J.	6081	Granite Ridge	88	272	C	11-1 to 2-28	90	982	M		
51	Dodds	6166	Dodds	89	960	S	YR	26	601	M		
52	Ellis Sheep Company	6185	Big	90	156	C	YR	16	300	M		
					2,345	S	YR	16	902			
			Cleghorn	91	190	S	4-1 to 10-31	47	127	M		

CURRENT GRAZING LEASES (continued)

Number on Map	Operator		Allotment		Livestock		Season	Federal Portion of Allotment (percentage)	Federal AUMs	Allotment Category	Number of Pastures	Approximate Total Acreage
	Name	Number	Name	Number	No.	Kind						
52	Ellis Sheep (cont.)		Foster Draw	92	705	S	10-1 to 11-30	76	215	M		
			Middle Fork	93	1,030	S	7-1 to 10-15	33	238	M		
			Donlin	94	44	C	7-1 to 9-20	34	40	M		
					660	S	7-1 to 9-20	34	120			
			Bucknum A.T.	1002	100	C	1-15 to 2-14	100	100	M		
53	Fenton	6190	Fenton	95	349	C	6-1 to 10-31	31	542	M		
			Waltman	8	17	C	1-1 to 5-31	41	49	M		
54	Forgey	6198	Forgey	96	80	C	YR	18	173	M		
					1,600	S	YR	18	692			
55	Gowin	6219	Paul Place	97	68	C	6-1 to 10-31	59	202	M		
			North Casper Creek	98	122	C	YR	15	220	M		
			Buchanan	99	60	C	5-1 to 10-31	11	40	M		
			Merino A.T.	1001	126	C	10-16 to 11-30	100	189	M		
56	Harlan, C.	6691	Cloud Creek	100	11	C	6-1 to 9-30	100	47	M		
			Powder River	101	34	C	6-1 to 9-30	89	124	M		
			Harlan	102	95	C	10-1 to 5-30	57	433	M		
			Trail	103	20	C	6-1 to 9-30	10	8	M		
57	Harlan, R.	6633	Broken Horn	104	128	C	YR	39	601	M		
58	Harvey, J.	6260	Spring Canyon	105	186	C	7-1 to 12-31	31	347	M		
59	Haygood & Martin	6263	Corral Creek	106	54	C	YR	27	176	M		
			Haughton	107	87	C	YR	13	137	M		
60	Henry	6269	Henry	108	300	C	10-16 to 5-15	11	231	M		
					2,235	S	YR	11	591			
			North Fork	109	172	C	5-16 to 10-15	44	379	M		
61	Holman	6274	Holman	110	14	C	3-1 to 4-30	32	9	M		
					150	S	3-1 to 4-30	32	19			
					14	C	10-1 to 2-28	32	22			
					150	S	10-1 to 2-28	32	48			
			Alkali	111	66	C	6-1 to 10-31	85	280	M		
					665	S	6-1 to 10-31	85	568			
			First Water	112	17	C	5-1 to 9-30	57	51	M		
62	Hornbuckle	6018	Hornbuckle	113	157	C	YR	8	151	M		
					1,170	S	YR	8	225			
			55 Ranch	114	125	C	YR	23	516	M		
					935	S	YR	23	345			
			North Fork	109	103	C	5-16 to 10-15	50	259	M		
63	Irvine, Van	6306	Antelope Hills	115	69	C	YR	34	282	M		
					690	S	YR	34	566			
			Lone Tree Gulch	116	31	C	YR	50	186	M		
					315	S	YR	50	383			
			Flying Diamond	117	116	C	YR	10	139	M		
					1,175	S	YR	10	282			
64	Jarrard	6314	Jarrard	118	222	C	9-15 to 11-14	59	262	M		
			Smoky Gap A.T.	1008	75	C	9-26 to 11-4	100	100	M		
65	Johnson, Bill	6315	Togy Mound	119	17	C	5-1 to 10-31	24	25	M		
			Table Mountain 1	120	26	C	5-16 to 10-31	100	144	M		
66	Johnson, Jack	6317	Johnson	121	33	C	YR	40	162	M		

CURRENT GRAZING LEASES (continued)

Number on Map	Operator		Allotment		Livestock		Season	Federal Portion of Allotment (percentage)	Federal AUMs	Allotment Category	Number of Pastures	Approximate Total Acreage
	Name	Number	Name	Number	No.	Kind						
67	Lorenz	6736	Table Mountain 2	122	37	C	7-16 to 8-31	100	56	M		
68	M & D	6402	M & D	123	542	C	5-1 to 11-30	40	1,518	M		
69	Manning	6521	Manning	124	615	S	YR	15	222	M		
70	Marshall	6380	Ward Place	125	382	C	9-15 to 9-30	25	430	M		
71	McGuire B., Sr.	6032	Lower Muleshoe	126	81	C	6-1 to 10-31	90	365	M		
			Upper Muleshoe	127	28	C	6-1 to 10-31	82	115	M		
			Slate Creek	128	16	C	4-16 to 10-31	41	45	M		
72	Burns Land & Cattle	6000	Garfield Peak	129	664	C	5-1 to 10-31	32	1,275	M		
					3,325	S	5-1 to 10-31	32	1,277			
73	Miller, D.	6415	Miller	130	254	C	YR	34	1,038	M		
74	Milne, J.	6425	Sheep Creek	131	98	C	YR	48	567	M		
75	Milne, G.	6427	Wallace Creek	132	120	C	5-16 to 8-31	30	126	M		
76	Moore, Tye	6442	Clarkson Hill	133	129	C	YR	47	728	M		
77	Pine Mountain Ranch	6493	Pine Mountain	134	205	C	YR	26	641	M		
78	Robinett, Guy	6026	Barker	135	1,075	S	YR	16	414	M		
79	Salt Creek Ranch	6552	Cottonwood Creek	136	191	C	YR	28	642	M		
					965	S	YR	28	648			
			Bothwell Draw	137	60	C	YR	31	223	M		
					305	S	YR	31	229			
			Salt Creek	138	37	C	YR	68	302	M		
					185	S	YR	68	309			
80	Sanford	6666	TTT-Scott's Place	139	51	C	YR	63	98	M		
					65	S	YR	63	391			
81	Schnoor	6558	Schnoor	140	48	C	YR	29	169	M		
82	Scott	6560	Bessemer Bend	141	16	C	10-1 to 5-31	10	13	M		
			Jackson Canyon	142	373	C	6-1 to 9-30	38	567	M		
83	Sedman	6704	Table Mountain 3	143	67	C	6-16 to 10-31	100	302	M		
84	Shepperson Ranch	6570	Castle Creek	144	232	C	10-15 to 6-30	52	1,026	M		
85	Skyline Ranches	6075	Diamond Ring	145	291	C	YR	30	1,048	M		
					1,460	S	YR	30	1,052			
			Midwest	146	668	C	YR	16	1,283	M		
					3,345	S	YR	16	1,285			
86	Smith Sheep Company	6586	Smith	147	451	C	YR	14	758	M		
					2,260	S	YR	14	760			
87	Spratt & Sons	6739	Okie Trail	148	605	C	YR	53	3,850	M		
88	Staple 3 Sheep Co.	6597	Staple Three	149	178	C	YR	39	834	M		
					1,190	S	YR	39	1,114			
89	Thirty-One Bar	6062	Thirty-One Bar	150	214	C	5-1 to 10-31	29	374	M		
90	Valentine & Sons	6638	Valentine	151	221	C	11-16 to 6-15	20	319	M		
					2,580	S	11-16 to 6-15	20	723			
			Big Muddy	152	71	C	6-16 to 11-15	27	96	M		
					830	S	6-16 to 11-15	27	224			
91	V.I. Sheep Company	6642	Edgerton	153	2,500	S	12-1 to 4-30	40	999	M		
			Smoky Gap	154	930	C	5-1 to 6-30	17	63	M		
					940	S	10-16 to 11-30	17	48			
			Dead Horse	155	1,235	S	5-1 to 6-30	33	163	M		
					1,240	S	10-16 to 11-30	33	123			
			Eagle Creek	156	450	S	7-1 to 10-15	52	165	M		
			Barnum Road	157	315	S	7-1 to 10-15	5	11	M		

CURRENT GRAZING LEASES (continued)

Number on Map	Operator		Allotment		Livestock		Season	Federal Portion of Allotment (percentage)	Federal AUMs	Allotment Category	Number of Pastures	Approximate Total Acreage
	Name	Number	Name	Number	No.	Kind						
92	Weidt	6353	Weidt	159	77	C	11-1 to 3-31	57	221	M		
93	Zavorka	6685	Bump-Sullivan	160	4	C	7-1 to 8-31	100	8	M		
94	Seven L Livestock	6562	Seven L	161	451	C	YR	33	1,786	M		
					1,220	S	YR	33	966			
	Annis	6009		6009	18	C	3-1 to 2-28	100	216	C		
	Baker B.	6017		6017	2	C	3-1 to 2-28	100	31	C		
	Baker, R.	6019		6019	54	C	3-1 to 2-28	100	656	C		
	Baldwin & Sons	6020		6020	213	C	6-1 to 10-31	3	32	C		
	Banner Ranch Co.	6022		6022	35	C	5-16 to 6-15	17	6	C		
					35	C	10-1 to 10-31	17	6			
	Barbe	6023		6023	46	C	5-1 to 10-15	45	114	C		
	Allen	6024		6024	25	S	3-1 to 2-28	100	79	C		
	Bard Ranch Company	6025		6025	6	C	3-1 to 1-31	100	66	C		
	Barnette	6027		6027	22	C	3-1 to 2-28	100	263	C		
	Bass Ranches	6030		6030	220	C	5-1 to 9-30	8	88	C		
	Bixby	6036		6036	7	C	3-1 to 2-28	10	85	C		
	Blevens E.	6037		6037	22	C	6-1 to 9-30	10	9	C		
	Blevens, R.	6038		6038	8	C	7-16 to 9-30	100	20	C		
	Bloody Turnip Inc.	6039		6039	1	C	3-1 to 2-28	100	13	C		
	Blocker	6041		6041	5	C	3-1 to 2-28	6	4	C		
	Bomgardner	6043		6043	21	C	3-1 to 2-28	100	252	C		
	Bressler	6052		6052	17	C	5-1 to 6-15	60	16	C		
	Briggs	6055		6055	71	C	5-1 to 8-31	8	23	C		
	Brown	6060		6060	3	C	3-1 to 2-28	100	37	C		
	Brozovich	6063		6063	18	C	5-1 to 7-31	70	38	C		
	Bruner	6064		6064	54	C	4-16 to 9-30	3	9	C		
	Buchanan	6065		6065	312	C	6-1 to 9-30	4	50	C		
	Davison	6067		6067	20	C	3-1 to 2-28	100	240	C		
	Buffalo Pool	6068		6068	2	C	3-1 to 2-28	100	25	C		
	Deer Creek Crazing	6069		6069	133	C	3-1 to 2-28	1	16	C		
	Flying M Ranch	6070		6070	7	C	3-1 to 2-28	100	87	C		
	Wright	6079		6079	19	C	3-1 to 2-28	100	236	C		
	Burnett	6080		6080	32	C	3-1 to 2-28	100	386	C		
	Butler	6087		6087	17	C	3-1 to 2-28	100	214	C		
	Butner	6088		6088	108	C	6-1 to 8-31	4	13	C		
	Cardine	6091		6091	6	C	3-1 to 2-28	100	72	C		
	Carlson, Irving	6095		6095	7	C	5-1 to 10-31	14	6	C		
	Chamberlain Bros.	6096		6096	325	C	6-16 to 10-15	2	26	C		
	Chamberlain, G.	6097		6097	2	C	3-1 to 2-28	100	30	C		
	Chambers	6098		6098	226	C	6-1 to 10-31	3	34	C		
	Cheesbrough	6099		6099	200	C	3-1 to 2-28	2	48	C		
	Clark	6105		6105	50	C	6-1 to 10-31	16	40	C		
	Clausen Ranches	6106		6106	117	C	6-1 to 10-31	15	88	C		
	Coleman, C.	6124		6124	83	C	3-1 to 2-28	5	50	C		
	Coleman, R.	6125		6125	102	C	5-16 to 12-15	5	36	C		
	Collins, R.	6128		6128	20	C	3-1 to 2-28	2	5	C		
	Cooper	6130		6130	6	C	3-1 to 2-28	100	73	C		
	Lyman	6131		6131	4	S	3-1 to 2-28	100	9	C		
	Corl	6133		6133	7	C	3-1 to 2-28	21	84	C		

CURRENT GRAZING LEASES (continued)

Number on Map	Operator		Allotment		Livestock		Season	Federal Portion of Allotment (percentage)	Federal AUMs	Allotment Category	Number of Pastures	Approximate Total Acreage
	Name	Number	Name	Number	No.	Kind						
	Cotton	6134		6134	19	C	5-1 to 8-31	9	7	C		
	Coy	6136		6136	20	C	3-1 to 2-28	100	246	C		
	Garrelts	6137		6137	3	C	3-1 to 2-28	100	39	C		
	Criss	6138		6138	40	C	3-1 to 2-28	100	482	C		
	Cross, R.	6139		6139	4	C	3-1 to 2-28	100	53	C		
	Cross, W.	6140		6140	22	C	3-1 to 2-28	100	264	C		
					45	S	3-1 to 2-28	100	108			
	Cross Y Ranch	6143		6143	66	C	3-1 to 2-28	1	8	C		
	Cundall Herefords	6144		6144	59	C	3-1 to 2-28	100	705	C		
	Cundall, G.	6148		6148	1	C	3-1 to 2-28	100	16	C		
	Cundall, L.	6149		6149	2	C	3-1 to 2-28	100	35	C		
	Daily	6153		6153	37	C	10-16 to 11-15	64	24	C		
	Daiss	6154		6154	29	C	3-1 to 2-28	4	14	C		
	Daly	6155		6155	2	C	3-1 to 2-28	19	25	C		
	Badger Ranch	6156		6156	135	C	6-15 to 101-4	10	54	C		
	Franklin	6157		6157	115	C	5-1 to 9-31	12	69	C		
	Buffalo Pool Grz.	6158		6158	110	C	6-1 to 10-31	4	22	C		
	Davis	6159		6159	4	C	3-1 to 2-28	100	52	C		
	Dilts, S.	6161		6161	5	C	3-1 to 2-28	100	67	C		
					63	S	3-1 to 2-28	100	153			
	Dilts, F.	6162		6162	1	C	4-1 to 10-31	100	7	C		
				6162	100	C	5-16 to 9-30	22	100	C		
	Dziardziel	6163		6163	22	C	3-1 to 2-28	3	8	C		
	Donovan	6168		6168	4	C	3-1 to 2-28	100	57	C		
					30	S	3-1 to 2-28	100	69			
	Double Crown Rnchs.	6169		6169	7	C	3-1 to 2-28	100	88	C		
	Dowers	6170		6170	3	C	3-1 to 2-28	100	38	C		
	Downs	6171		6171	13	C	3-1 to 2-28	100	163	C		
	Duck Creek Ranches	6172		6172	50	C	3-1 to 2-28	100	607	C		
	Duff	6173		6173	1	C	3-1 to 2-28	100	16	C		
	Duncan, C.	6174		6174	6	C	3-1 to 2-28	14	10	C		
	Duncan Ranches Inc.	6175		6175	109	C	6-1 to 11-15	2	12	C		
	Dunn	6176		6176	15	C	5-10 to 9-30	100	69	C		
	Duthie	6177		6177	19	C	3-1 to 2-28	100	236	C		
	Etchemendy	6178		6178	100	C	9-18 to 10-17	5	5	C		
	Eberspecher	6180		6180	1	C	3-1 to 2-28	100	13	C		
				6180	7	S	3-1 to 2-28	100	17			
	Eccles	6181		6181	1	C	3-1 to 2-28	100	11	C		
	Eddy	6182		6182	10	C	3-1 to 2-28	13	16	C		
	Erschabek	6186		6186	10	C	5-1 to 9-31	12	6	C		
	Esau Trust	6187		6187	1	C	3-1 to 2-28	100	8	C		
	Falkenburg Ranches	6188		6188	1	C	3-1 to 2-28	100	10	C		
	Fawcett	6189		6189	1	C	3-1 to 2-28	100	10	C		
	Finnerty	6191		6191	2	C	3-1 to 2-28	100	27	C		
	Fitzhugh	6195		6195	240	C	3-1 to 4-15	1	4	C		
				6195	240	C	12-16 to 2-28	1	6	C		
	Flock	6196		6196	10	C	3-1 to 2-28	100	131	C		
	Forbes	6197		6197	2	C	3-1 to 2-28	100	29	C		
					81	S	3-1 to 2-28	100	192			
	France	6201		6201	10	C	3-1 to 2-28	100	123	C		
	Frederick Ranch Co.	6204		6204	10	C	3-1 to 2-28	100	122	C		
	Frederick, R.	6205		6205	37	C	4-1 to 12-31	100	333	C		
	Frederick, W.	6206		6206	26	C	6-1 to 10-28	100	128	C		

Appendix D

CURRENT GRAZING LEASES (Continued)

Number on Map	Operator Name	Operator Number	Allotment Name	Allotment Number	Livestock No.	Livestock Kind	Season	Federal Portion of Allotment (percentage)	Federal AUMs	Allotment Category	Number of Pastures	Approximate Total Acreage
	Froshiesar	6207		6207	29	C	5-16 to 9-15	12	14	C		
	Galligar	6209		6209	2	C	3-1 to 2-28	100	25	C		
					5	S	3-1 to 2-28	100	14			
	Galligar & Martin	6210		6210	5	C	3-1 to 2-28	100	62	C		
					12	S	3-1 to 2-28	100	30			
	Woods	6211		6211	11	C	3-1 to 2-28	100	140	C		
	Garrelts	6212		6212	2	C	3-1 to 2-28	100	26	C		
	Gierse	6216		6216	130	S	11-1 to 2-28	17	18	C		
	Goertz, A.	6220		6220	3	C	3-1 to 2-28	100	37	C		
	Coertz, R.	6221		6221	1	C	3-1 to 2-28	100	17	C		
	Grant, R.	6222		6222	5	C	3-1 to 2-28	100	67	C		
	Crant, F.	6223		6223	200	C	7-1 to 10-15	1	7	C		
	Norfolk-Franklin	6224		6224	5	C	3-1 to 2-28	100	60	C		
	Craves Ranch Co.	6226		6226	1	C	3-1 to 2-28	100	14	C		
	Craves, R.	6227		6227	1	C	3-1 to 2-28	100	13	C		
	Cray, M.	6228		6228	3	C	3-1 to 2-28	100	36	C		
	Cray, W.	6229		6229	1	C	3-1 to 2-28	100	6	C		
	Green Valley, Inc.	6230		6230	5	C	3-1 to 2-28	100	67	C		
	Haas Farms, Inc.	6233		6233	10	C	3-1 to 2-28	100	121	C		
	Haefle	6234		6234	1	C	3-1 to 2-28	100	19	C		
	Hageman, F.	6235		6235	6	C	3-1 to 2-28	100	76	C		
					8	S	3-1 to 2-28	100	18			
	Hageman, J.	6237		6237	5	C	3-1 to 2-28	100	63	C		
	Hagemeister	6240		0001	11	C	5-1 to 10-31	100	66	C		
				0002	25	C	3-1 to 2-28	100	308			
	Hakalo	6241		6241	1	C	3-1 to 2-28	100	7	C		
	Hammer	6246		6246	2	C	3-1 to 2-28	100	24	C		
	H & T Ranch	6248		6248	5	C	3-1 to 2-28	100	65	C		
	Hardy Enterprises	6255		6255	46	C	3-1 to 2-28	100	552	C		
	Thomas	6259		6259	3	C	3-1 to 2-28	100	34	C		
	Millgate	6265		6265	1	C	3-1 to 2-28	100	6	C		
	Heart Bent Arrow	6266		6266	2	C	3-1 to 2-28	100	28	C		
	Henderson	6268		6268	2	H	3-1 to 2-28	100	27	C		
	Horr	6271		6271	1	H	7-1 to 9-30	100	3	C		
				6271	30	C	7-1 to 9-30	100	89	C		
	Hollingsworth	6272		6272	2	C	3-1 to 2-28	100	24	C		
	Hood	6275		6275	4	C	5-1 to 9-30	100	20	C		
	Houx	6277		6277	4	C	3-1 to 2-28	100	53	C		
	Howard	6278		6278	20	C	5-10 to 9-14	86	72	C		
	Nall	6279		6279	9	C	6-1 to 10-31	60	28	C		
					10	C	4-1 to 5-31	15	12			
	Hoy Ranches, Inc.	6281		6281	3	C	3-1 to 2-28	100	36	C		
	Hoy, R.	6283		6283	2	C	3-1 to 2-28	100	32	C		
	Hughes	6284		6284	1	C	3-1 to 2-28	100	9	C		
	Indian Meadows	6290		6290	9	C	3-1 to 2-28	100	108	C		
	Irvine, J.	6305		6305	12	C	3-1 to 2-28	100	152	C		
	Irwin Livestock	6309		6309	2	C	3-1 to 2-28	100	24	C		
	Jensen-Heckman	6312		6312	11	C	3-1 to 2-28	100	138	C		
	Johnson, J.	6318		6318	7	C	3-1 to 2-28	100	87	C		
	Johnson, P.	6322		6322	3	C	3-1 to 2-28	100	36	C		

Appendix D

CURRENT GRAZING LEASES (continued)

Number on Map	Operator		Allotment		Livestock		Season	Federal Portion of Allotment (percentage)	Federal AUMs	Allotment Category	Number of Pastures	Approximate Total Acreage
	Name	Number	Name	Number	No.	Kind						
	Johnson, W. Jr.	6329		6329	2	C	3-1 to 2-28	100	27	C		
	Johnstone	6330		6330	3	C	3-1 to 2-28	100	36	C		
					19	S	3-1 to 2-82	100	46			
	Jones, D.	6332		6332	7	C	3-1 to 2-28	100	90	C		
	Jones, W.	6333		6333	1	C	3-1 to 2-28	100	10	C		
	Josendal	6334		6334	12	C	6-1 to 9-30	100	48	C		
				6334	120	S	6-1 to 9-30	100	97	C		
	Kaufman, H.	6340		6340	7	C	3-1 to 2-28	100	86	C		
	Kaufman, M.	6341		6341	1	C	3-1 to 2-28	100	11	C		
	Keenan	6342		6342	50	S	3-1 to 2-28	100	120	C		
	Kinniburgh & Lyle	6344		6344	4	C	3-1 to 2-28	100	48	C		
	Kelly	6345		6345	1	C	3-1 to 2-28	100	11	C		
	Iberlin Ranch	6346		6346	1	C	3-1 to 2-28	100	10	C		
	Kittell	6347		6347	30	C	3-1 to 2-28	100	367	C		
	Miskimins	6355		6355	25	C	6-1 to 8-31	100	74	C		
	Lancaster	6356		6356	8	C	3-1 to 2-28	100	96	C		
	Larson	6357		6357	1	C	3-1 to 2-28	100	4	C		
	Lawrence	6358		6358	1	C	3-1 to 2-28	100	16	C		
	Lay Estate	6359		6359	7	C	3-1 to 2-28	100	84	C		
	Lebar	6362		6362	13	C	3-1 to 2-28	100	166	C		
	Lewis, G.	6364		6364	10	C	5-16 to 11-30	23	15	C		
	Lewis Ranch	6365		6365	2	C	3-1 to 2-28	100	32	C		
	Daly	6368		6368	1	C	3-1 to 2-28	100	7	C		
	Lisle	6370		6370	4	C	3-1 to 2-28	100	56	C		
	Loomis	6372		6372	6	C	3-1 to 2-28	100	75	C		
	McFarlane	6374		6374	2	C	3-1 to 2-28	100	32	C		
	Manning, R.	6375		6375	43	S	3-1 to 2-28	100	104	C		
					47	C	3-1 to 2-28	100	559			
	Manning, G.	6376		6376	6	C	3-1 to 2-28	100	82	C		
	Martin	6383		6383	8	C	5-16 to 11-15	33	16	C		
	Mason	6386		6386	45	C	6-20 to 9-15	56	72	C		
	UVA Ranch	6388		6388	11	C	3-1 to 2-28	100	143	C		
	McGuire, D. L.	6396		6396	1	C	3-1 to 2-28	100	6	C		
	Edwards	6397		6397	5	C	3-1 to 2-28	100	66	C		
	McGuire, D. L.	6398		6398	5	S	3-1 to 2-28	100	12	C		
	McGuire, J.	6399		6399	3	C	3-1 to 2-28	100	47	C		
	Meredith	6400		6400	4	C	3-1 to 2-28	100	50	C		
	Erskine	6404		6404	31	C	3-1 to 2-28	100	378	C		
	Harris	6406		6406	2	C	3-1 to 2-28	100	29	C		
	Michael	6407		6407	1	C	3-1 to 2-28	100	22	C		
	Middleswarth	6408		6408	3	C	3-1 to 2-28	100	36			
	Middleton	6409		6409	3	C	3-1 to 2-28	100	39	C		
	Miles	6414		6414	22	C	3-1 to 2-28	100	268	C		
	Houston	6417		6417	13	C	3-1 to 2-28	100	163	C		
	Miller, C.	6418		6418	60	C	3-1 to 2-28	100	16	C		
	Miller Ranches	6419		6419	338	C	3-1 to 2-28	40	1,623	C		
	Milow	6420		6420	2	C	3-1 to 2-28	100	24	C		
	York	6430		6430	5	C	5-1 to 9-30	100	5	C		
	Mitchell Ranch	6431		6431	12	C	3-1 to 2-28	100	145	C		
	Grant, R.	6435		6435	3	C	3-1 to 2-28	100	36	C		
	Lisco	6436		6436	150	C	3-1 to 2-28	1	18	C		
					205	S	3-1 to 2-28	1	5			

CURRENT GRAZING LEASES (continued)

Number on Map	Operator Name	Operator Number	Allotment Name	Allotment Number	Livestock No.	Livestock Kind	Season	Federal Portion of Allotment (percentage)	Federal AUMs	Allotment Category	Number of Pastures	Approximate Total Acreage
	Moore, E.	6437		6437	74	C	3-1 to 2-28	100	888	C		
				6437	365	S	3-1 to 2-28	100	876	C		
	Moore, B.	6439		6439	5	C	3-1 to 2-28	100	64	C		
	Moore, L.	6440		6440	47	C	3-1 to 2-28	100	564	C		
				6440	75	S	3-1 to 2-28	100	180	C		
	Moore Ranch Co.	6444		6444	31	C	3-1 to 2-28	100	382	C		
				6444	155	S	3-1 to 2-28	100	382	C		
	Booth	6445		6445	6	C	3-1 to 2-28	100	72	C		
	Morrison	6446		6446	1	C	3-1 to 2-28	100	20	C		
	Mort	6447		6447	1	C	3-1 to 2-28	100	10	C		
	Cannon L & L	6448		6448	36	C	3-1 to 2-28	100	432	C		
				6448	203	S	3-1 to 2-28	100	487	C		
	Mowrey	6451		6451	5	C	3-1 to 2-28	100	27	C		
	Murphy Ranch Co.	6452		0001	199	C	6-1 to 9-30	100	796	C		
					1,010	S	12-1 to 12-31	100	202	C		
				0002	107	C	6-1 to 9-30	25	107	C		
				0003	151	C	7-1 to 9-30	30	136	C		
	Manning	6453		6453	7	C	3-1 to 2-28	100	83	C		
	Natural Bridge Rch.	6454		6454	15	C	3-1 to 2-28	100	187	C		
	Neff Ranch	6455		6455	89	C	5-1 to 10-31	16	86	C		
					150	C	3-1 to 2-82	1	12			
	Netz	6456		6456	129	C	3-1 to 2-28	6	93	C		
	Newell	6457		6457	8	C	3-1 to 2-28	100	103	C		
	Newman	6458		6458	1	C	3-1 to 2-28	100	22	C		
	Newton	6459		6459	3	C	3-1 to 2-28	100	42	C		
	Nicks	6460		6460	1	C	3-1 to 2-28	100	2	C		
	Lovitt	6462		6462	1	C	3-1 to 2-28	100	10	C		
	Nunn Ranches	6463		6463	3	C	3-1 to 2-28	100	37	C		
	Lay	6464		6464	1	C	3-1 to 2-28	100	18	C		
	Warner	6467		6467	1	C	3-1 to 2-28	100	24	C		
	Orr Cattle Co.	6470		6470	2	C	3-1 to 2-28	100	25	C		
	Osburn	6471		6471	3	C	3-1 to 2-28	100	36	C		
	Chalk Hills Ranch	6472		6472	8	C	3-1 to 2-28	8	8	C		
	Palumbo	6473		6473	33	C	3-1 to 2-28	100	406	C		
	Parsons	6474		6474	1	C	3-1 to 2-28	100	23	C		
	Patrick Brothers	6475		6475	13	C	3-1 to 2-28	100	151	C		
	Payne	6476		6476	1	C	3-1 to 2-28	100	6	C		
	Peterson	6479		6479	2	C	3-1 to 2-28	100	24	C		
	Petsch & Rollins	6480		6480	51	C	6-16 to 9-31	10	18	C		
	Saddleback L & L	6481		6481	275	C	6-1 to 9-30	6	66	C		
	Pfister	6482		6482	2	C	3-1 to 2-28	100	24	C		
	Philbrick	6487		6487	230	C	6-1 to 6-30	100	330	C		
	Phinney	6488		6488	2	C	3-1 to 2-28	100	28	C		
	Pickinpaugh	6489		6489	60	C	12-1 to 1-31	3	4	C		
					600	S	5-10 to 6-15	3	4	C		
					600	S	12-10 to 2-28	3	10	C		
	Soderberg Ranch	6496		6496	82	C	3-1 to 2-28	100	199	C		
	Poage	6497		6497	25	C	6-1 to 10-31	14	18	C		
	Popple & Creager	6498		6498	50	S	3-1 to 2-28	100	119	C		
	Preuit, E.	6503		6503	6	C	3-1 to 2-28	100	74	C		

CURRENT GRAZING LEASES (continued)

Number on Map	Operator		Allotment		Livestock		Season	Federal Portion of Allotment (percentage)	Federal AUMs	Allotment Category	Number of Pastures	Approximate Total Acreage
	Name	Number	Name	Number	No.	Kind						
	Preuit, T.	6504		6504	2	C	3-1 to 2-28	100	26	C		
	True Ranches	6506		6506	5	C	3-1 to 2-28	100	65	C		
	Radichal	6508		6508	9	C	3-1 to 2-28	100	108	C		
	Rae	6510		6510	1	C	3-1 to 2-28	100	15	C		
	Raeber Ranch	6511		6511	2	C	3-1 to 2-28	100	25	C		
	Ramage Ranch Co.	6512		6512	9	C	3-1 to 2-28	100	114	C		
	Ramsey	6513		6513	1	C	3-1 to 2-28	100	10	C		
	Rankin Ranches	6515		6515	10	C	3-1 to 2-28	100	121	C		
	Herbst	6517		6517	1	C	3-1 to 2-28	100	4	C		
					5	S	3-1 to 2-28	100	12			
	Burns	6518		6518	1	C	3-1 to 2-28	100	8	C		
	Redding	6520		6520	1	C	3-1 to 2-28	100	16	C		
	Reese	6525		6525	80	C	5-1 to 9-30	5	20	C		
					100	C	5-1 to 9-30	4	20	C		
	Reffalt	6527		6527	2	C	3-1 to 2-28	100	25	C		
	Rietz & Irvine	6532		6532	13	C	3-1 to 2-28	100	161	C		
	Rietz, P. E.	6533		6533	14	C	3-1 to 2-28	100	179	C		
	Eeles	6534		6534	65	C	4-1 to 6-17	6	10	C		
	Rissler	6536		6536	2	C	3-1 to 2-28	100	29	C		
	Rodgers	6543		6543	16	C	3-1 to 2-28	100	202	C		
	Fox Creek L & L	6544		6544	1	C	3-1 to 2-28	100	6	C		
	JY Ranch Inc.	6545		6545	66	C	3-1 to 2-28	100	792	C		
	Star C, Inc.	6548		6548	33	C	3-1 to 2-28	100	403	C		
	Russel	6549		6549	14	C	3-1 to 2-28	100	175	C		
	Daily R., Jr.	6550		6550	19	C	5-16 to 6-15	36	7	C		
	Siefers Ranch	6557		6557	10	C	6-1 to 10-31	32	17	C		
	Seidel	6561		6561	1	C	3-1 to 2-28	100	13	C		
	Shinn	6572		6572	10	C	3-1 to 2-28	100	121	C		
	Sieck Family Trust	6574		6574	1	C	3-1 to 2-28	100	9	C		
	Silver	6575		6575	28	C	3-10 to 5-20	9	6	C		
	Skinner	6576		6576	2	C	3-1 to 2-28	100	24	C		
	Smith, B.	6581		6581	2	C	3-1 to 2-28	100	29	C		
	Smith, K.	6584		6584	1	C	3-1 to 2-28	100	9	C		
	Smith L & L	6585		6585	10	H	3-1 to 3-31	18	2	C		
				6585	10	H	10-1 to 2-28	18	9	C		
				6585	55	C	4-1 to 9-30	6	20	C		
				6585	55	C	10-1 to 1-13	18	34	C		
	Sno-Shoe Ranch	6590		6590	8	C	3-1 to 2-28	100	96	C		
	Snodgrass	6591		6591	117	C	4-1 to 4-30	35	41	C		
					120	C	10-1 to 10-10	35	14	C		
	Sparks	6592		6592	1	C	3-1 to 2-28	100	4	C		
	Springfield Ranch	6596		6596	6	C	3-1 to 2-28	100	73	C		
	Fort Laramie Ranch	6598		6598	7	C	3-1 to 2-28	100	88	C		
	Steeley	6601		6601	1	C	3-1 to 2-28	100	19	C		
	Stoddard	6604		6604	141	C	6-1 to 10-31	6	43	C		
	Strand	6607		6607	10	C	3-1 to 2-28	100	130	C		
				6607	41	S	3-1 to 2-28	100	100	C		

CURRENT GRAZING LEASES (continued)

Number on Map	Operator		Allotment		Livestock		Season	Federal Portion of Allotment (percentage)	Federal AUMs	Allotment Category	Number of Pastures	Approximate Total Acreage
	Name	Number	Name	Number	No.	Kind						
	Strock	6608		6608	4	C	3-1 to 2-28	100	48	C		
				6608	67	S	3-1 to 2-28	100	161	C		
	Y Z Ltd.	6610		6610	24	C	3-1 to 2-28	100	296	C		
	Gothberg	6614		6614	1	C	3-1 to 2-28	100	12	C		
	Jackson	6615		6615	2	C	3-1 to 2-28	100	24	C		
	Taubert	6616		6616	15	C	6-1 to 11-15	48	40	C		
	King	6617		6617	42	C	11-1 to 5-31	11	32	C		
	Bell	6618		6618	25	C	3-1 to 2-28	2	6	C		
				6618	250	S	3-1 to 2-28	2	12	C		
	Odell	6620		6620	26	C	3-1 to 2-28	100	322	C		
	Teeters	6623		6623	1	C	3-1 to 2-28	100	12	C		
	Thalken	6624		6624	17	C	3-1 to 2-28	13	7	C		
						and	10-1 to 2-28	13	11			
	Tesch	6625		6625	69	C	6-1 to 10-31	10	41	C		
	Testolin	6626		6626	6	C	3-1 to 4-30	100	12	C		
						and	11-15 to 2-28	100	21			
	Schamel	6630		6630	1	C	3-1 to 2-28	100	19	C		
	Tobin, C.	6631		6631	7	C	3-1 to 2-28	100	90	C		
	Tobin, J.	6632		6632	10	C	5-1 to 2-28	100	150	C		
	Two Bar Ranch Co.	6637		6637	1	C	3-1 to 2-28	100	9	C		
	Vanbuskirk, J.	6640		6640	1	C	3-1 to 2-28	100	12	C		
	Vanbuskirk, I.	6641		6641	1	C	3-1 to 2-28	100	7	C		
	Volk	6643		6643	2	C	3-1 to 2-28	100	31	C		
	Vollman	6644		6644	14	C	3-1 to 2-28	100	168	C		
	Walker	6648		6648	64	C	6-1 to 8-31	14	27	C		
	Laird	6649		6649	10	C	3-1 to 2-28	100	126	C		
	Wallis Brothers	6651		6651	1	C	3-1 to 2-28	100	18	C		
	Kessler	6654		6654	3	C	3-1 to 2-28	100	36	C		
	Bar 9 Bar Ranch	6660		6660	9	C	3-1 to 2-28	100	108	C		
	Puryear	6661		6661	10	S	3-1 to 2-28	100	25	C		
				6661	17	C	3-1 to 2-28	100	205	C		
	Wells	6663		6663	1	C	3-1 to 2-28	100	6	C		
	Werner	6664		6664	7	C	9-16 to 12-31	100	25	C		
	55 Ranch Company	6665		6665	25	C	3-1 to 2-28	100	308	C		
				6665	35	S	3-1 to 2-28	100	87	C		
	Philbrick	6669		6669	344	C	6-1 to 6-30	100	344	C		
	Whiting	6670		6670	4	C	3-1 to 2-28	100	55	C		
	4 U Enterprises	6672		6672	1	C	3-1 to 2-28	100	16	C		
	Williams	6673		6673	3	C	3-1 to 2-28	100	42	C		
	Willox	6675		6675	2	C	3-1 to 2-28	100	34	C		
	Wills	6676		6676	1	C	3-1 to 2-28	100	8	C		
	Von Forell Hfds.	6680		6680	12	C	3-1 to 2-28	100	146	C		
	Wintermote	6682		6682	12	C	3-1 to 2-28	100	76	C		
				6682	23	S	3-1 to 2-28	100	57	C		
	Zavorka	6685		6685	10	C	7-1 to 8-31	100	20	C		
	Wyohoma	6687		6687	4	C	3-1 to 2-28	100	52	C		
	Yates	6688		6688	1	C	3-1 to 2-28	100	9	C		
	York	6689		6689	1	C	3-1 to 2-28	100	13	C		
	Young, F.	6690		6690	1	C	3-1 to 2-28	100	11	C		
	Young, K.	6692		6692	1	C	3-1 to 2-28	100	18	C		
	Wilson	6696		6696	1	C	3-1 to 2-28	100	18	C		

CURRENT GRAZING LEASES (continued)

Number on Map	Operator		Allotment		Livestock		Season	Federal Portion of Allotment (percentage)	Federal AUMs	Allotment Category	Number of Pastures	Approximate Total Acreage
	Name	Number	Name	Number	No.	Kind						
	Baumgardner	6697		6697	1	C	3-1 to 2-28	100	22	C		
	Horton	6700		6700	1	C	3-1 to 2-28	100	7	C		
	Patterson Ranch	6709		6709	460	C	3-1 to 2-28	100	144	C		
				6709	516	S	6-16 to 11-15	13	334	C		
	Bowen	6712		6712	25	C	5-16 to 9-15	6	6	C		
	Keith Ranch	6714		6714	2	C	3-1 to 2-28	100	35	C		
					5	S	3-1 to 2-28	100	12			
	Johnson	6718		6718	5	C	3-1 to 2-28	100	62	C		
	Bruch Brothers	6719		6719	95	C	4-1 to 10-31	3	20	C		
	Wells	6722		6722	45	C	5-16 to 10-15	7	16	C		
	Sloan	6731		6731	327	C	7-1 to 9-20	15	131	C		
	Curley	6732		6732	26	C	6-1 to 10-31	3	4	C		
	Harris	6733		6733	1	C	3-1 to 2-28	100	12	C		
	Fisher	6735		6735	1	C	3-1 to 2-28	100	16	C		
	Hayden	6737		6737	2	C	3-1 to 2-28	100	27	C		
	Werner	6738		6738	49	C	5-1 to 9-30	17	42	C		
	By The Way Ranch	6740		6740	1	C	3-1 to 2-28	100	16	C		
	Cross, Inc.	6741		6741	200	C	6-1 to 11-30	1	12	C		
	Francis Livestock	6742		6742	1	C	3-1 to 2-28	100	14	C		

Kind of Stock - C = cattle; S = sheep; H = horses

Allotment Category - I = intensive; M = maintenance; C = custodial

AUM = Animal unit month

"A.T." indicates "after trail"; that is, grazing is permitted in the area of a stock driveway at times other than during trailing.

APPENDIX E: ALLOTMENT CATEGORIZATION CRITERIA

CATEGORY "M"—MAINTAIN EXISTING RESOURCE CONDITIONS

Factors

Range condition is satisfactory.

Range trend is static or improving.

Present management is adequate.

Allotment has moderate to high forage production potential and is producing to the satisfaction of the rancher and the BLM.

No significant grazing-related resource conflicts have been identified.

Opportunity may exist for a positive economic return for public investments.

Management Actions

The BLM's objective will be to take actions that will maintain current use and resource conditions.

Livestock use will be permitted under a 10-year lease.

Increases may be allowed when consistent with multiple-use objectives.

Range improvement projects on federal lands can be authorized; however, allotments in the "I" Category will have priority for public funds.

The BLM will conduct low to high intensity monitoring, depending upon the value of resources in the allotment.

CATEGORY "I"—IMPROVE EXISTING RESOURCE CONDITIONS

Factors

Rancher or BLM has identified opportunities for improvement in range condition.

Range trend is static or downward.

Livestock management can be improved through water distribution, seasons of use, or other factors.

Allotment has moderate to high forage production potential and is producing at low to moderate levels.

Grazing-related resource conflicts may exist.

Opportunities do exist for a positive economic return on public investments.

Management Actions

The BLM will implement actions that will improve resource conditions.

Livestock use can be increased or decreased to meet management objectives. Lease terms will be 1 to 10 years.

These "I" allotments will be considered first for investment of public funds.

BLM use supervision and monitoring will normally be done on these allotments first.

CATEGORY "C"—CUSTODIAL MANAGEMENT

Factors

Range condition is not a factor.

Management is satisfactory and is generally limited because the public lands are of low acreage or in a scattered land pattern.

Allotment has a low production potential or is producing near its potential.

Resource conflicts are limited.

Few opportunities for positive economic investments on public lands exist.

Management Actions

Grazing use will be authorized at a level needed to prevent deterioration of existing conditions.

Leases will be issued for 10-year terms.

Range improvements on public lands can be authorized, but the chances for the use of public funds are limited because category "M" and "I" allotments will probably be financed first.

The BLM will conduct low intensity use supervision and monitoring.

Appendix E

TABLE E-1
GRAZING LEASE CATEGORIZATION DATA
("Custodial" (C), "Improve" (I), and "Maintenance" (M) Allotments)

Number on Map	Operator Name	Operator Number	Allotment Category	Resource Opportunities/Problems/Conflicts	Critical Resource Values	Use Conflicts	Range Condition & Potential	Management & Project Opportunities	Willingness to Invest
1	Aetna Insurance	6280	1	Past heavy use. Lack of water on west slope. Conflict between deer, elk and livestock on summer-fall ranges. Ranch management problems.	X		X	X	Yes
2	Bates Creek Cattle Company	6031	I, M, C	I-implemented AMP. Pasture carrying capacities unequal. Subirrigation meadows and riparian areas in fair condition. Management good. M-low production potential due to selenium. Critical antelope winter range.			X	X	Yes
3	Bentley, J.	6033	I	Past heavy use by livestock and wild horses. Some unsuitable range due to steep slopes. Critical deer and antelope winter range. Livestock management problems due to poor fences. Poor water quality, Bates Creek. Range condition 5% fair, 55% good, 20% excellent and 20% other.			X	X	Maybe
4	Bonar, B.	6047	I, C	Potential for better livestock use with water development.				X	Yes
5	Britain, B.	6057	I, M	Past heavy use due to imbalance between summer and winter ranges. Additional range recently acquired. Needs allotment fence to prevent livestock trespass.			X	X	No
6	Burke Sheep Company	6066	I, M	Erosion and poor water quality on Cloud Creek.				X	Yes
7	Carlson, A. L.	6094	I, M	I-needs more water on spring-fall ranges to balance operation. Needs boundary fence to prevent trespass and heavy use on mountain range. Poor forage production in east and west mountain pastures. M-low percent federal range.			X X	X X	Maybe Maybe
8	Cheney Livestock	6100	1, M	I-poor water quality, Red Creek. Management problems due to unfenced boundary. Critical deer winter range.	X	X	X	X	Maybe
9	Clear Creek Cattle Company	6107	1	Matador allotment-small area of critical elk, deer and antelope winter range. Clear Creek allotment is critical elk calving area and winter range. Good project development potential.	X			X	Maybe

LEASE CATEGORIZATION DATA (continued)

Number on Map	Operator Name	Operator Number	Allotment Category	Resource Opportunities/Problems/Conflicts	Critical Resource Values	Use Conflicts	Range Condition & Potential	Management & Project Opportunities	Willingness to Invest
10	Cloud Creek Sheep Company	6111	1	Poor water quality in Cloud Creek. Cloud Creek pasture needs fence.	X			X	Yes
11	Coffman Ranch Company	6115	1	Shortage of water on livestock winter areas and antelope summer range. Imbalance between livestock summer and winter ranges. Poor water quality in Indian Creek and Anderson Draw. Good potential for projects and increased AUMs.	X	X	X	X	Yes
12	Cummings, E.	6423	1	Critical antelope winter range. Some imbalance between winter and summer ranges. Potential for improvement in range condition.	X		X	X	Yes
13	Deer Creek Ranch	6071	1, M	I-past heavy use. Some project potential. Not much federal range. Needs boundary fences. M-low percentage of federal range.			X	X	Maybe
14	Elkhorn Land & Livestock	6179	1	Good production potential and potential for improvement. Critical antelope and deer habitat.	X		X	X	Yes
15	Garrett Ranch	6213	1	Critical deer and antelope range. Poor water quality in Stinking Creek and Lawn Creek. Good potential for increased forage. Range condition--poor 0%, fair 2%, good 81% and other 17%.	X		X	X	Maybe
16	Howard Farms	6184	1, M	I-poor water quality in Cloud Creek, fragile watershed in Mike's Draw. Range condition--80% good to excellent and 20% other.	X			X	Maybe
17	Irvine Brothers	6300	I	Some sites near water in fair condition, otherwise good. Edge of critical antelope winter range. Range condition--8% other, 16% fair, 76% good.	X		X	X	Maybe
18	Irvine Ranches	6302	I	Potential for project development.				X	Yes
19	Marton Brothers	6308	1	Critical antelope and deer winter range. Poor water quality on Ledge Creek and Bolton Creek. Past heavy use. range condition--2% fair, 86% good and 12% other.	X		X	X	Yes
20	McGuire, F.	6394	I	Range improvement potential.			X	X	Yes

LEASE CATEGORIZATION DATA (continued)

Number on Map	Operator Name	Operator Number	Allotment Category	Resource Opportunities/Problems/Conflicts	Critical Resource Values	Use Conflicts	Range Condition & Potential	Management & Project Opportunities	Willingness to Invest
21	Miles Land & Livestock	6413	I, M, C	I-Critical deer and antelope winter range. Range condition generally good, some meadows fair. 2% fair, 83% good, 15% other. M-Good condition. C-low percentage of federal range.	X				
22	Burns Land & Cattle Company	6416	I	Potential for project development.				X	Maybe
23	Mills Livestock	6422	I, M, C	I-critical deer winter range, some suitability problem with steep slopes, requests conversion sheep to cattle. M-low federal range,sSome projects. C-low federal range.	X		X	X	Maybe
24	Rattlesnake Grazing Association	6015	I	Good potential for improvement, critical deer winter range. Some heavy use of meadows. Fragile watershed on Alcova Rim. Range condition--2% fair, 93% good, 5% other.	X		X	X	Yes
25	Rimrock Livestock	6535	I, M	I-large potential increase in forage with brush control and fencing. Some overuse in fall due to livestock drifting to one end of pasture. M-low percentage of federal range.			X	X	Yes
26	Robinett, V.	6539	I	Critical antelope winter range.	X			X	No
27	Schmitt, C.	6556	I	Critical deer winter range. Some steep slope problems.	X	X		X	Yes
28	Shamrock Ranch Company	6563	I	Poor water quality in Cloud Creek.				X	Yes
29	Shepperson, K.R.	6465	I	Potential for project work.				X	Yes
30	Squaw Mountain Ranch	6270	I	Livestock distribution problems.			X	X	No
31	Steinle, J.	6602	I	Critical antelope and deer winter ranges. Some overuse because of poor boundary fences. Small band of free-roaming horses. Poor water quality in Bates Creek.	X		X	X	No
32	Stevenson & Sons	6011	I	Critical antelope winter range. Range conditions--15% fair, 75% good, 10% other.	X		X	X	Yes

LEASE CATEGORIZATION DATA (continued)

Number on Map	Operator Name	Operator Number	Allotment Category	Resource Opportunities/Problems/Conflicts	Critical Resource Values	Use Conflicts	Range Condition & Potential	Management & Project Opportunities	Willingness to Invest
33	Strohecker, A.	6609	1	Critical antelope winter range.	X			X	Maybe
34	Sullivan. F.	6612	I, C	1-project development potential. Some potential improvement in range condition. C-scattered federal lands.			X	X	Maybe
35	Teapot Ranch	6622	I	Some project potential.				X	Yes
36	Willow Creek Company	6674	I	Critical elk and deer winter range. Summer range needs water.	X	X	X	X	Maybe
37	Wollen, B. E.	6311	I	Potential for management changes and projects. Critical antelope and deer winter ranges.				X	Yes
38	Allemand, R.	6002	M	Project work. Federal lands scattered.				X	Yes
39	Antelope Springs Lone Bear	6010	M	Project work. range condition good.				X	Yes
40	Body, A.	6040	M	Critical antelope winter range. Poor water quality in Stinking Creek. Small acreage of federal land. Range condition is 56% fair, 40% good, 4% excellent.	X		X	X	Maybe
41	Body, R.	6042	M	Critical antelope and deer winter range. Poor water quality in Stinking Creek. Small acreage of federal land. Prairie dog problem. Range condition is 4% fair, 92% good, 4% other.	X		X	X	Yes
42	Braunschweig, R.	6051	M	Federal lands scattered--5,663 acres.					
43	Bremer, D.	6713	M	Associated with Game and Fish Rawhide Management Unit. Wetland-waterfowl habitat. 198 acres.	X				
44	Brewer	6053	M	Some past heavy use. Operation more balanced now with additional summer range.					
45	Brooks, B.B.	6058	M, C	Some pastures with enough blocked federal range to warrant "M".					
46	Carlson Ranch Company	6135	M	One community pasture. Lands scattered.					
47	Clemons, M.	6152	M	Edge of critical elk winter range. Scattered federal lands.					
48	Coates, J.	6112	M	Critical deer winter range. Two small parcels.	X				

LEASE CATEGORIZATION DATA (continued)

Number on Map	Operator Name	Operator Number	Allotment Category	Resource Opportunities/Problems/Conflicts	Critical Resource Values	Use Conflicts	Range Condition & Potential	Management & Project Opportunities	Willingness to Invest
49	Cole Creek Sheep Company	6122	M	Scattered land pattern. Some larger parcels.					
50	Collins, J.	6081	M	Critical antelope range. Little opportunity for improvement with fall and winter use.	X			X	No
51	Dodds, T.	6166	M	Federal lands are fairly scattered.					
52	Ellis Sheep Company	6185	M	Silt loss in fall and Cleghorn pasture. Some larger blocks of federal lands.					
53	Fenton, C.	6190	M, C	One pasture 63% federal range. Good condition.				X	Yes
54	Forgey, R.	6198	M, C	Good condition.					
55	Gowin, M.	6219	M, C	Three small pastures with over 50% federal land. Some opportunity for project work.				X	No
56	Harlan, C.	6691	M	Important deer habitat.					
57	Harlan, R.	6633	M	Important deer habitat.					
58	Harvey, J.	6260	M	Important deer habitat. Federal lands scattered.					
59	Haygood & Martin	6263	M, C	Critical deer winter range. Small acreage.	X				
60	Henry, W.	6269	M, C	Common use pasture with Hornbuckle.				X	No
61	Holman, W.	6274	M	Mountain pasture unfenced.				X	Maybe
62	Hornbuckle, R.	6018	M, C	Common use pasture with Henry.				X	No
63	Irvine, Van	6306	M	Some larger blocks of federal land.					
64	Jarrard, H.	6314	M	One pasture is 59% federal range.					
65	Johnson, B.	6315	M	Table Mountain Wildlife Management Unit. Waterfowl, small game habitat.	X				
66	Johnson, J.	6317	M	Critical deer winter range. One small pasture.	X			X	Yes
67	Lorenz, R.	6736	M	Table Mountain Wildlife Management Unit.	X				

LEASE CATEGORIZATION DATA (continued)

Number on Map	Operator Name	Operator Number	Allotment Category	Resource Opportunities/Problems/Conflicts	Critical Resource Values	Use Conflicts	Range Condition & Potential	Management & Project Opportunities	Willingness to Invest
68	M & D	6402	M	Improve livestock distribution with water development.				X	No
69	Manning, C.	6521	M	Eagle habitat. Scattered federal range. Critical antelope winter range.	X				
70	Marshall, G.	6380	M	Federal acreage--3,372.					
71	McGuire B., Sr.	6032	M	Past heavy use. Small area, large percentage of federal range.					
72	Burns Land & Cattle	6000	M	Past heavy use. Critical deer, antelope, elk winter range.	X		X	X	
73	Miller, D.	6415	M	7,736 acres of federal range.					
74	Milne, J.	6425	M	Critical deer winter range.	X				
75	Milne, G.	6427	M	Federal range, 1,000 acres.					
76	Moore, T.	6442	M	Three-pasture rotation grazing system.					
77	Pine Mountain Ranch	6493	M	Critical antelope winter range. Eagle habitat. Lands scattered.	X			X	No
78	Robinett, G.	6026	M	Federal lands--2,637 acres--are scattered.					
79	Salt Creek Ranch Company	6552	M	One pasture, 68% federal range.					
80	Sanford, N.	6666	M	One pasture, 63% federal range.					
81	Schnoor, H.	6558	M	Critical antelope winter range. Poor water quality in Stinking Creek. Low percentage of federal range.	X				
82	Scott, Dr.	6560	M	Critical deer winter range. Eagle habitat. Federal range, 38%.	X			X	No
83	Sedman, J.	6704	M	Table Mountain Wildlife Management Unit-AMP.	X				
84	Shepperson Ranch	6570	M	Some project potential.				X	No
85	Skyline Ranches	6075	M, C	Poor water quality in Salt Creek.					
86	Smith Sheep Company	6586	M	Large ranch, federal lands are scattered.				X	Yes

LEASE CATEGORIZATION DATA (continued)

Number on Map	Operator Name	Operator Number	Allotment Category	Resource Opportunities/Problems/Conflicts	Critical Resource Values	Use Conflicts	Range Condition & Potential	Management & Project Opportunities	Willingness to Invest
87	Spratt & Sons	6739	M	Critical elk winter range. Little opportunity for improvement.	X				
88	Staple 3 Sheep Company	6597	M	Federal lands, 13,147 acres.					
89	Thirty-One Bar	6062	M	Some potential for water development.					
90	Valentine & Sons	6638	M	Federal lands of 7,999 acres are scattered.					
91	V.I. Sheep Company	6642	M	Some pastures with larger blocks of federal land.					
92	Weidt, M.	6353	M	Small pasture--57% federal acreage.					
93	Zavorka, L.	6685	M	Bump-Sullivan Wildlife Management Unit.	X				
94	Seven L Livestock Company	6562	M	Some potential for range projects.					

APPENDIX F: INDUSTRIAL DEVELOPMENT IN THE CASPER DISTRICT

PRODUCING COAL MINES

Big Horn (Peter Kiewit)
North Rawhide (Carter)
Eagle Butte (AMAX)
Fort Union (Delzer Construction)
Clovis Point (Kerr-McGee)
Wyodak (Wyodak)
Caballo (Carter)
Belle Ayr (AMAX)
Cordero (Cordero)
Jacobs Ranch (Kerr-McGee)
Black Thunder (Anaconda)
Dave Johnston (Glenrock Coal)
Buckskin (Shell)
Coal Creek (Anaconda)

NONPRODUCING COAL MINES

Ash Creek (Ash Creek Mining)
Black Mountain (Black Mountain)
Dutchman (JMT)
Wildcat Creek (Gulf)
Dry Fork (Phillips)
South Rawhide (Carter)
East Gillette (Kerr-McGee)
Peabody (Peabody)
Caballo Rojo (Mobil)
Wymo Fuels (Wymo)
North Rochelle (Shell Oil)
Rochelle (Peabody)
Antelope (NERCO)
Rocky Butte (Texas Energy)
Keeline (Neil Butte)
North Antelope (North Antelope Coal Company)

PREFERENCE RIGHT LEASE APPLICATIONS

Ulm Project (Fred C. Woodson)—2 PRLAs
Wildcat Creek Area (Gulf)—7 PRLAs
Thunderbird Project (Western Fuels)—16 PRLAs
Thunderbird II (Wold-Jenkins)—11 PRLAs
South Gillette (Peabody)—6 PRLAs (6 PRLAs were rejected and are under appeal)
Belle Fourche (John Wold)—1 PRLA (1 PRLA was PRLA (1 PRLA was rejected and is under appeal)
East Black Thunder (Anaconda)—3 PRLAs
Rochelle Area (Peabody)—5 PRLAs
North Antelope (NERCO)—2 PRLAs
South Antelope (Peabody)—1 PRLA
Dull Center (Peabody)—2 PRLAs
Sand Draw (Peabody)—5 PRLAs
Stevens North (Western Fuels)—3 PRLAs
Stevens South (Western Fuels)—1 PRLA
Southern Powder River (CDT)—2 PRLAs

COAL EXCHANGES

Big Horn
Gulf
Belco
Kerr-McGee
Whitney Benefits

POWER PLANTS

Neil Simon
Wyodak
Osage
Dave Johnston
Missouri Basin Project

REFINERIES

Osage
Wyoming
Texaco
Little America
Glenrock
Amoco

URANIUM MINE AND MILL AREA

Irigary in situ
Greasewood Creek Mine
North Butte Mine and Mill
PINTEC and Thunderbird joint in situ
Reno Road in situ
Charlie Ore Body Mine and Mill
Moore Ranch Mine
Sand Rock Mill
Bear Creek Mine and Mill
Open Pit and Section 34 Mines
Teton Exploration in situ
SPRB Mill
Highland Mine and Mill
Nine Mile Lake in situ
Morton Ranch Mine and Mill
Bill Smith Mine

BENTONITE MINE AND MILL AREA

American Colloid Mine and Mill
NL-Industries Mine and Mill
International Mineral Co. Mine and Mill
Federal Bentonite Corp. Colony Mine and Mill
American Colloid Mine
Federal Bentonite Division Mine
Benton Clay Corp. Mine
Kaycee Bentonite Corp. Mine
Benton Clay Corp. Mill
Kaycee Bentonite Corp. Mill

OIL AND GAS

Regional Developments

RELATED ENERGY DEVELOPMENT

ETSI Coal Slurry Pipeline
Chicago and North Western Railroad Connector

APPENDIX G: SUMMARIES OF OIL AND GAS

PLATTE RIVER OIL AND GAS EA

Scope

The Platte River Resource Area Oil and Gas EA (WY-062-1-13; March 1982) analyzed and described the impacts of oil and gas leasing alternatives in the resource area. It provided the public with a description of environmental consequences associated with leasing alternatives and enabled the BLM to make better decisions about the multiple resources that could be affected. Areas were described where no leasing would occur, where leasing could occur, and areas that could be leased with special provisions. Mitigating measures that would reduce environmental effects were also identified and discussed.

In addition, the EA analyzed all support requirements, both on and off lease sites, that would be necessary for development of a lease, and it identified impacts of geophysical exploration on land open to leasing. Off-lease developments are rights-of-way for roads, power lines, pipelines, communication sites, material sales, and other related developments associated with lease development. On-lease developments include tank batteries, reserve pits, disposal pits, storage areas, and related facilities. Planning decisions that constrain oil and gas development are identified in appendix B, where they are identified with an asterisk.

Purpose

The purpose of leasing federal oil and gas is to help meet the national demand for energy fuels. This also follows the U.S. Department of the Interior's energy initiatives and national policy. The BLM, as a part of the Department of the Interior, encourages oil and gas development on federal mineral estates by providing the private sector with access to as much of the federal mineral estate with oil and gas development potential as possible. This access is subject to restraints of legislatively decreed responsibilities found in federal and state statutes and in local agency regulations.

The BLM has no jurisdiction regarding the leasing or development of private minerals, and this document does not address those areas.

Legal Restrictions

Legal restrictions prohibit leasing within incorporated city, town, or village limits; in national parks and monuments, and within 1 mile of naval petroleum reserve boundaries. Lands affected by these restrictions in the resource area are Fort Laramie National Monument in Goshen County and Naval Petroleum Reserve 3 in northeastern Natrona County.

Analysis

This was a programmatic EA—it did not analyze specific well sites or other specific practices. The primary purpose was to identify cumulative impacts at an assumed rate and type of development, as discussed in the assumptions and analysis guidelines in the EA. As individual applications are received, they will be reviewed to determine the applicability of this analysis to the project. If the individual project is determined to be outside the scope of this EA, additional analysis will be completed.

To help determine the major issues that should be discussed in the EA, a scoping workshop was conducted on April 15, 1981. Workshop participants represented a variety of special interests including the oil and gas industry, environmental groups, ranching, and wildlife management. The following issues were identified:

Fencing of abandoned locations until vegetation could be reestablished

Inclusion of forb and shrub seed in the seed mixture

Muffling of pumpjacks, drilling rigs, etc., near sensitive wildlife and recreation areas

Methods of keeping waterfowl out of pits

Areas of Environmental Concern, as follows:

a. Golden eagle nests near Bill, Wyoming

b. Bald eagle roosts near Antelope Creek in Converse County

c. Edness Kimball Wilkins State Park

d. Areas along the North Platte River between Glenrock and Glendo Reservoir, as identified by Wyoming Game and Fish Department

e. Cody Shale outcrop areas

Well pad size

Reduction of environmental damage and construction cost by placing rib substructure on compacted fill

Elimination of spiderweb effect of roads

Addition of cereal grain nurse crops to seed mixture for improved success of rehabilitation

Need for improved road construction standards

Unrestricted use of roads on public lands

Alternatives Considered

The following alternatives were initially considered for analysis in the EA:

The Proposed Action, which would have resulted in the continuation of leasing under existing laws and regulations, with current stipulations and restrictions included in the management decisions of three MFPs. These MFPs were developed for the management of public lands in the four counties of the resource area.

Alternative 1, No Leasing, would have permitted no new leasing for oil and gas development. This would have afforded a maximum level of protection for all natural resources.

Alternative 2, Leasing with Special Stipulations, would have allowed leasing under stipulations that could increase or decrease the level of protection currently provided by existing laws, regulations, and standard stipulations.

Alternative 3, Leasing with No Restrictions, would have allowed leasing without any sort of restrictions or protective measures.

Decisions

BLM staff review, as well as public review and comment during the scoping process, resulted in the elimination of Alternatives 1 and 3 from further consideration. These alternatives were not analyzed in the EA. The rationale for their elimination is as follows:

Alternative 1, No Leasing: This alternative was not consistent with current governmental policy or initiatives to meet growing energy needs through leasing with multiple use management guidelines. Comments received at a public workshop indicated that consideration of such an alternative would not be reasonable.

Alternative 3, Leasing with No Restriction: This alternative was found to be inconsistent with NEPA and FLPMA and management policies related to those laws. Comments received at a public workshop indicated that consideration of such an alternative would not be valid and led to the conclusion that some level of protection was needed through restrictions or stipulations.

This EA documented the analysis of only the Proposed Action and Alternative 2, Leasing with Special Stipulations.

The Proposed Action

The BLM has established criteria for the protection of thje environment in the PRRA through the use of standard stipulations and land use planning through MFP documents. Stipulations are applied case by case at the time of the field examination, depending on the requirements of resources at each site.

The BLM's proposed action was to continue issuing oil and gas leases in the PRRA, subject to the standard stipulation, conditions identified in the MFPs, laws, and regulations, and the stipulations applied at the time of the field examination of each site.

Activities Related to Oil and Gas

Activities associated with geophysical exploration, leasing anddevelopment, and rights-of-way, as they relate to the proposed action, are as follows: Geophysical exploration, leasing, drilling operations, development and production, and abandonment and rehabilitation. The oil and gas EA presents a comprehensive description of these activities and the consequences of oil and gas development in the PRRA. Copies of the EA are available for the public at the Casper District office.

Rationale for Selecting the Preferred Alternative

After consideration of public review and comment it was determined that Alternative 2, as modified by the EA decision record, would allow ample opportunity to explore and develop oil and gas resources. At the same time it would allow greater flexibility to protect surface resources in the PRRA. This alternative provided opportunity for reducing areas previously restricted from exploration and development of the oil and gas resource. Land use decisions analyzed under this alternative allow for both increasing or decreasing protective measures as necessary. Mitigating measures in the form of stipulations are identified in the EA.

SOUTH BIG HORN MOUNTAINS OIL AND GAS EA

Scope

The Platte River Resource Area has prepared an EA for the South Big Horn Mountain Area in northwest Natrona County, *Southern Big Horn Mountain Oil and Gas Leasing* (EA No. WY-062-9-52, 1979). That EA, prepared after an offer was received to lease about 70,000 acres in the South Big Horn area, identified areas of leasing with restrictions, areas of no leasing, and restrictions that may be applied to leases in the area. Planning decisions that constrain oil and gas development are identified in appendix B, where they are identified with an asterisk.

Purpose

To determine if the area should be leased, and if so, what stipulations should be applied to mitigate the environmental consequences resulting from oil and gas exploration and development.

Physical Setting and Environment

The area, which is in northwestern Natrona County, is rough and broken. Soils are fragile and erode easily. Elevations range from 6,160 feet to 8,660 feet, with maximum relief of 2,500 feet. The area is covered with sage and grass, with less than 5% timber. An elk herd of about 500 inhabits the area. Raptors and sage grouse are commonly seen. The perennial streams hold native trout. There are grazing leases throughout the area. No active mining or oil wells exist, and the area is considered to have low potential for oil and gas.

Appendix G

Alternatives Considered

Alternative 1: Reject the lease application

Alternative 2: Accept the lease application with no stipulations

Alternative 3: Accept all or portions of lease offers with stipulations

Conclusions

Alternative 3 was accepted, fourteen stipulations were developed to be applied to the various leases where needed. The stipulations are as follows:

1. Occupancy will be restricted to slopes less than 15% for the protection of watershed.
2. Occupancy will be permitted no closer than 500 feet from the edge of perennial streams or riparian habitat.
3. Every attempt will be made to avoid disturbing exposed portions of the Madison Limestone Formation. If location and/or pit construction exposes the Madison Formation, the pits will be lined with plastic, and all sludge and fluids will be pumped from the reserve pit at the time of abandonment to avoid the possibility of contaminating the groundwater. When the formation is drilled through, the hole will be lined with concrete to prevent crossover.
4. All vehicular traffic will be restricted to existing roads and trails unless otherwise indicated.
5. No construction will be permitted during periods when the soil is wet from rain or snow.
6. Exploration and development will be permitted only from June 1 through September 30 or the first lasting snow, whichever comes first. This is to protect wintering elk, calving elk, and the watershed.
7. To maintain esthetic values, all semipermanent and permanent facilities will require painting or camouflage to blend with the natural surroundings. The paint selection or method of camouflage will be subject to approval by the district engineer, Geological Survey, with the concurrence of the district manager, Bureau of Land Management.
8. Drilling locations will be fenced with sheep-tight fence until such time as division of operations releases the company from its reclamation bond.
9. Rehabilitation will commence as soon after drilling is completed as is feasible. Reseeding will include mixtures of native shrubs, grasses and forbs.
10. No surface occupancy will be permitted within ½ mile of either side of the Red Wall.
11. No surface occupancy will be permitted within *1½ mile* of *any* raptor nest during nesting season. Specific distance and season of restriction will be determined case by case.
12. Access roads and well locations shall avoid stands of trees and mountain mahogany.
13. All location and road construction will be monitored by the district engineer or his representative.
14. A preliminary environmental review will be conducted on each location prior to staking.

APPENDIX H: SUMMARY OF COAL PLANNING IN THE PRRA

CONVERSE COUNTY COAL AMENDMENT

Introduction

This summary documents a BLM planning amendment to the 1977 Eastern Powder River Basin MFP and deals only with coal management decisions in northern Converse County, Wyoming. The amendment was completed early in 1983.

The Thunder Basin National Grassland in the extreme northeast corner of the county is administered by the Forest Service, which released a coal unsuitability criteria assessment on the grassland in 1982. The national grassland area is not included in this summary.

Several things should be kept in mind regarding this summary. All figures for coal resources are approximate, based on data obtained from Coal Resource Occurrence-Coal Development Potential (CRO/CDP) maps. The figures apply only to the high and moderate development potential federal coal areas identified on map 2 on the Converse County coal amendment document. Tonnage projections are for federal planning purposes only, as CRO/CDP maps do not identify coal tonnages for nonfederal coal. To determine tonnage estimates for state, private, and federal coal, an estimate of the average tons per acre was projected from the CRO/CDP maps.

The term "high and moderate coal" in the amendment refers only to *federal* coal with high and moderate potential for development by surface mining methods. The CRO/CDP maps for the review area indicate that all the high-moderate development potential coal is best suited to surface mining. High coal development potential for surface mining in Converse County has a stripping ratio of 0 to 10 cubic yards of overburden per ton of coal. Moderate coal development potential for surface mining has a stripping ratio of 10 to 15 cubic yards of overburden per ton of coal in the county.

Because of recent changes, the coal planning regulations no longer address coal land in terms of high or moderate development potential. A call for coal resource information was published in conformance with the current regulations in conjunction with this RMP. Since there were no responses to the call, no coal lands are addressed in the RMP except the areas with high and moderate development potential already considered.

Purpose, Need, Conformance

This amendment was initiated to ensure that the Converse County portion of the Eastern Powder River Basin MFP would reflect and be in conformance with current statutory requirements and policies relating to potential federal coal development. The MFP covering the review area was prepared in 1977, prior to passage of the Surface Mining Control and Reclamation Act of 1977 and the subsequent adoption of the BLM planning regulations and the Federal Coal Management Program by the Secretary of the Interior in 1979. Specifically, this appendix summarizes the BLM federal coal management decisions for northern Converse County.

Objectives

The objectives of the amendment were to determine, through land use planning and application of the coal screening process, which BLM-administered federal coal lands in northern Converse County were acceptable pending study, deferred, or unsuitable for coal development and to identify the lands available for further consideration for new competitive coal leasing, emergency leasing, lease modifications, or exchanges.

Area Description

The northern Converse County review area lies within the Powder River Coal Region. The review area is composed of approximately 323,000 acres with about 48,000 acres of uncommitted high to moderate federal coal in Converse County, exclusive of the Thunder Basin National Grassland. Of this 48,000 acres, there are approximately 41,200 acres of state and privately owned surface overlying about 722 million tons of federal coal resources. Of this, only 360 acres containing about 10 million tons of coal is state surface. Approximately 7,600 acres with about 112 million tons of the coal resource are federally owned surface. Figures for state and private coal lands are not available. The review area contained no areas where federal surface overlies nonfederal coal.

Alternatives Considered

No Action Alternative

The No Action alternative was a continuation of existing management. Since the current MFP coal management decisions were not in conformance with new federal coal program requirements, they were invalid. A reassessment and any necessary modification of those decisions was required before federal coal leasing could be considered in this review area.

The environment would not be affected by this alternative, as no federal coal areas would be leased or developed. Opportunities for development would be forgone and the lands would remain closed to further consideration for leasing federal coal.

Proposed Action

Under the Proposed Action alternative, the MFP was brought into conformance with current laws, regulations, and policies. It identified the BLM-administered lands acceptable for coal development and for further consideration for leasing.

As a result of this alternative, approximately 555 million tons of high-moderate federal coal was determined to be acceptable for coal development and available for further consideration for coal leasing. The decision only identified lands acceptable for future coal development and leasing consideration. Should coal tracts be delineated in northern Converse County, there is no guarantee they would be leased or developed. Following any tract delineation, the environmental consequences of developing the coal would be addressed in a site-specific analysis and in a regional coal EIS before tracts could be offered for sale.

Should leasing and development occur, it is probable that there would be some environmental consequences such as socioeconomic impacts throughout the Powder River Coal Region, including northern Converse County and the communities of Douglas and Glenrock. Surface disturbances either would not be allowed or would be mitigated through compliance with mining operation stipulations and existing laws governing reclamation. Adverse or beneficial site-specific and cumulative impacts would be identified in the site-specific analysis and the regional coal EIS mentioned above.

COMPETITIVE FEDERAL COAL AREAS (SURFACE COAL MINING)

A sequential four-step coal screening process is used in the identification of areas that are acceptable for coal development and for further consideration for leasing. The steps are described below, followed by a summary of the findings and related recommendations. All acreage and tonnage figures are approximate. Additional detailed documentation and background information are available for public review at the PRRA office.

Step 1: Identification of Coal Areas

The coal review areas with development potential for surface mining were identified using CRO-CDP maps. No additional areas of interest were indiciated through a call for coal resource information.

Approximately 48,800 acres with a coal reserve base of about 834 million tons of federal coal were identified as having high to moderate coal development potential in the review area.

The remaining three screening steps were applied to the coal areas identified in Step 1. These steps are applied in sequence and only to the lands identified as acceptable for coal development in each preceding step.

Step 2: Application of Coal Unsuitability Criteria

As required by 43 CFR 3461, the 20 coal unsuitability criteria were applied to the coal review areas identified in step 1. The purpose of this step is to identify areas with key features or environmental sensitivity that would make them unsuitable for surface coal mining operations.

The following discussion briefly explains the findings resulting from application of each criterion. Table H-1 lists the findings by criterion and summarizes the overall results of the application of the unsuitability criteria.

Criterion 1: Federal Land Systems

No lands were determined to be unsuitable under criterion 1. There are no federal lands that meet the unsuitability definition in the review area.

Criterion 2: Rights-of-Way and Easements

No lands were identified where coal development would create significant conflicts with rights-of-way; therefore, no areas were determined to be unsuitable.

Most of the rights-of-way crossing the coal areas can be relocated to accommodate coal mining and related activities. Thus, the BLM made a general determination that most right-of-way areas are acceptable for coal development subject to valid existing rights and negotiations for relocating if necessary, appropriate stipulations, and consistency with current planning and management decisions. Any unforeseen conflicts in these areas whould be identified and resolved during the coal activity planning process or in development of the mining and reclamation plan.

Criterion 3: Buffer Zones for Rights-of-Way, Communities, and Buildings

No lands have been determined to be unsuitable under criterion 3. No state or federal highways, schools, churches, community or institutional buildings, or public parks were identified in the federal high to moderate coal lands.

One abandoned and two active ranch headquarters are within and adjacent to the coal review area. These locations would be further investigated should coal tracts be delineated to include any portion of them.

Criterion 4: Wilderness Study Areas

No areas were determined to be unsuitable under criterion 4. None of the lands in the review area are within a wildernesss study area.

Criterion 5: Scenic Areas

No areas were determined to be unsuitable under criterion 5. None of the lands in the review area meet the scenic criteria as outlined in the unsuitability criteria.

Appendix H

TABLE H-1
SUMMARY OF RESULTS OF APPLICATION
OF UNSUITABILITY CRITERIA[a]
(competitive federal coal areas)

Criteria	Unsuitable Approx. Acres	Unsuitable Million Tons	Acceptable Pending Study Approx. Acres	Acceptable Pending Study Million Tons
1. Federal land systems	0	0	0	0
2. Rights-of-way and easements	0	0	0	0
3. Buffer zones for rights-of-way, communities, and buildings	0	0	0	0
4. Wilderness study areas	0	0	0	0
5. Scenic areas	0	0	0	0
6. Land used for scientific study	0	0	0	0
7. Historic lands and sites			800	12
8. Natural areas	0	0	0	0
9. Federally listed endangered species habitat	0	0	283	7
10. State listed endangered species habitat	0	0	0	0
11. Bald and golden eagle nests	1,778	37	0	0
12. Bald and golden eagle roost and concentration areas	0	0	0	0
13. Falcon cliff nesting sites	206	7	0	0
14. Migratory bird habitat	0	0	0	0
15. Habitat for state high-interest wildlife	2,676	66	0	0
16. Floodplains	0	0	0	0
17. Municipal watersheds	0	0	0	0
18. National Resource Waters	0	0	0	0
19. Alluvial valley floors	0	0	555	15
20. State-proposed criteria	0	0	0	0

a. Figures are not additive because of overlap.

Criterion 6: Lands Used for Scientific Study

No areas were determined to be unsuitbale under criterion 5. None of the lands in the review area are under permit or are being used for scientific study.

Criterion 7: Historic Lands and Sites

Approximately 800 acres containing about 12 million tons of coal were determined to be acceptable pending study. Several sections of the Bozeman Trail are within the review area. Although the trail, or specific segments of it, may be eligible for nomination to the National Register, much of the trail has never been surveyed to determine actual conditions or the existence of significant historic resources. Both the BLM and the State Historic Preservation Officer feel that, pending study, some of the trail segment areas may be found to be acceptable for coal development with or without certain mitigation and protection requirements.

Criterion 8: Natural Areas

No areas were determined to be unsuitable under criterion 8. None of the lands in the review areas are designated as natural areas or National Natural Landmarks.

Criterion 9: Federally Listed endangered Species Habitat

No areas were determined to be unsuitable under criterion 9. The black-footed ferret and bald eagle are the only known federally listed threatened or endangered species that may occur in the review area. Bald eagles are addressed under unsuitability criteria 11 and 12.

There are no known occurrences of black-footed ferrets within the review area. However, prairie dog towns are potential habitat for the ferrets, and approximately 283 acres containing about 7 million tons of coal will carry a stipulation requiring ferret searches and resulting habitat protection requirements in accordance with U.S. Fish and Wildlife Service guidelines. Ferret searches must be made within no more than one year prior to any surface disturbance in the potential habitat area(s).

Criterion 10: State Listed Endangered Species Habitat

No areas were determined to be unsuitable under criterion 10. The state of Wyoming has no endangered species list.

Criterion 11: Bald and Golden Eagle Nests

Approximately 1,778 acres containing about 27 million tons of coal were determined to be unsuitable for surface coal mining under criterion 11. There are 16 known golden eagle nests and their related buffer zones within or adjacent to the review area. These nests and buffers were identified by the BLM, the USFWS, and the WGFD. No bald eagle nests have been located in the review area.

Criterion 12: Bald and Golden Eagle Roosts and Concentration Areas

No areas were determined to be unsuitable under criterion 12. The review area contains no known bald and golden eagle roosts or concentration areas.

Criterion 13: Falcon Cliff Nesting Sites

Approxmately 206 acres containing about 7 million tons of coal were determined to be unsuitable under criterion 13. A single prairie falcon nest has been identified within the review area. The nest and an appropriate buffer zone were identified by the BLM, the USFWS, and the WGFD.

Criterion 14: Migratory Bird Habitat

No areas were determined to be unsuitable under criterion 14. The review area contains no known federal coal lands that are high priority habitat for migratory bird species of high federal interest.

Criterion 15: Habitat for State High-interest Wildlife

A crucial sage grouse habitat of approxmately 2,700 acres containing about 66 million tons of coal was determined to be unsuitable for surface mining under criterion 15. A total of ten sage grouse leks was identified in the review area. Five of the leks and a minimum crucial area were delineated to provide sufficient habitat for the regional population. The five other leks were determined to be acceptable for surface coal mining, since they are in an area where there is insufficient habitat to support a significant population and the sage grouse populations are shifting to the crucial habitat area. However, stipulations will be applied to any leases within ½ mile of these leks or any new leks identified in the area.

The lessee will be required to collect, at a mininum, the following data.

Population numbers: Annual counts of birds using the leks will be made at least four times between March 1 and April 30 to determine the numbers of strutting males and the numbers of females present so that population trends can be established.

Nesting use on the lease, to be determined through appropriate survey techniques. Further, if 30% or more of the sage grouse population that uses the monitored lek is found to nest on the leased area, the original vegetation status must be restored within two miles of the lek during reclamation.

Criterion 16: Floodplains

No areas were determined to be unsuitable under criterion 16. It was determined that none of the lands in the review area are floodplains as identified in the criterion.

Criterion 17: Municipal Watersheds

No areas were determined to be unsuitable under criterion 17. No municipal watersheds were identified in the review area.

Criterion 18: Natural Resource Waters

No areas were determined to be unsuitable under criterion 18. No national resource waters are located within the boundaries of the review area.

Criterion 19: Alluvial Valley Floors

The BLM, in consultation with the Office of Surface Mining (OSM) and the Wyoming government, concluded that final determination of alluvial valley floors is the responsibility of OSM and the state of Wyoming at the time of mine plan approval and mine permitting. The following pertains only to "possible" alluvial valley floors identified by BLM.

The Dry Fork of the Cheyenne River and the Cheyenne River itself appear to be possible AVFs. Approximately 555 acres overlie federal high to moderate coal. These 555 acres with approxmately 15 million tons of coal were determined to be acceptable for further consideration for surface coal mining pending final determination of alluvial valley floors by the OSM and the state of Wyoming. Approximately 542 acres with 14.7 million tons of coal overlap lands unsuitable under criterion 11, 13, and 15.

Criterion 20: State Proposed Criterion

No lands were determined to be unsuitable under criterion 20. The state of Wyoming has no proposed criteria.

Appendix H

Step 3: Evaluation of Other Multiple Use Conflicts

Step 3 involves consideration of other multiple use values not included in the unsuitability criteria and identification of additional areas that could be unacceptable for surface coal mining.

Potential multiple use conflicts associated with coal development on the identified federal coal lands are oil and gas production, existing mining claims, the Orpha Stock Trail Driveway, aquifers, and disposal of scattered tracts of public lands. These are discussed in detail below.

Conflict: Oil and Gas Production

Surface coal mining would conflcit with oil and gas operations in existing, producingfields, which are called known geologic structures (KGSs). The KGSs in the review area overlie about 5,700 acres of federal coal lands containing about 127 million tons of coal.

Decision

Coal leasing will be deferred in KGSs where coal development would interfere with oil and gas operations and the economic recovery of the oil and gas resource, except where it can be shown that economic recovery of oil and gas related operations will be completed before possible coal mining operations would begin.

Rationale

The Powder River Basin as a whole contains sufficient amounts of coal to meet any forseeable demands. Thus, deferment would not significantly affect coal development. The BLM has developed procedures for arriving at and applying this planning constraint to avoid conflicts between coal development and oil and gas development. The intent of the recommendation is to maximize production of energy resources and not to develop one resource to the detriment of another. The quantities of coal available for potential new leasing make it unnecessary to create new conflicts between coal and oil and gas production within the planning unit.

The unsuitability criteria were applied to all high and moderate development potential coal within the review area, including that which fell within KGSs. Therefore, it will be possible to lift this constraint if it is determined that all or portions of a KGS are no longer required for oil and gas operations, or that conflicts between oil and gas production and coal development can be mitigated.

The public has been invited to supply information indicating the production and operational status of specific oil and gas fields. They will again be invited to supply that type information during any formal call for expressions of coal leasing interest in the area. With confirmation that conflicts do not exist or can be mitigated, areas within the KGSs would be available for coal tract delineation and further consideration for coal leasing.

In addition, before potential coal lease tracts are delineated, a review of possible lease tract areas will be conducted. Any new information gathered in the field regarding oil and gas operations will be considered before coal tracts are delineated. This could result in KGS areas being available for coal leasing or new areas being deferred where conflicts exist.

Following tract delineation, any new oil and gas operations occurring within a coal tract or new oil and gas information regarding a tract will be analyzed during the coal activity planning process.

Conflict: Mining Claims

Numerous mining claims, most of them for uranium, have been filed in the review area. However, no active uranium mines overlie the federal coal lands at this time.

Decision

All federal coal lands with mining claims are acceptable for coal development and further consideration for existing leasing subject to valid existing rights.

Rationale

The claims require annual assessment work by the claimant to maintain the claim, and claims may be located at any time. It is not possible to determine at this time which lands, if any, may have claims on them in the future. The problem of specific mining claims will be addressed on a site-specific basis after tracts have been delineated and during the coal activity planning stages. Potential coal lessees should be advised of the possible existence of claims and the conflicts they could present.

Conflict: Orpha Stock Trail Driveway

There is a withdrawal in effect on the Orpha Stock Trail Driveway that precludes disposal of federal lands within the driveway. The withdrawal does not preclude mineral leasing but does preclude interruption of the use of the driveway for its intended purpose of trailing stock or any disruption of water rights. Approximately 2,920 acres containing 62 million tons of coal would potentially be affected by the stipulations of the withdrawal.

Decision

Federal coal lands within the Orpha Stock Trail Driveway are acceptable for further consideration for coal leasing or exchange, subject to stipulations and mitigation requirements that resolve any conflicts, unless and until the withdrawal is revoked.

Rationale

The Stock Driveway withdrawal does not preclude leasing of the lands for mineral development. Review and revocation of unnecessary withdrawals is now standard procedure, so the decisions are no longer necessary directives. The Orpha Stock Trail Driveway is now under review, but until the review and revocation are complete, potential lessees should be aware that the limitations on use previously stated exist on the driveway lands.

Conflict: Land Disposal

The current planning decision state that disposal of public lands in townships containing less than 1,200 acres of such lands will be pursued and that the lands will be available first for exchange or R&PP uses and then for sale.

Decision

The current planning decisions are consolidated and changed to the following: Isolated parcels (less than 1,280 contiguous acres) will be reviewed, categorized and prioritized for disposal and for retention for multiple resource management. All federal lands are acceptable for further consideration for coal leasing as a result of this decision.

Rationale

The existing decisions were not in conformance with current policy and would not allow for retention of isolated tracts with high resource potential or disposal of isolated tracts first by sale.

Conflict: Aquifers

An existing planning decision dealt with identifying locally important shallow aquifers and developing plans for their protection and management. The aquifers are coal beds in many cases.

Decision

The decision was rejected. All federal coal lands overlying shallow aquifers including those within the Fort Union and Wasatch aquifers, are acceptable for further consderation for coal leasing as a result of this decision.

Rationale

The future waters needs of the BLM and its lessees should be protected because in some cases the local shallow aquifer may be the only source of water. This is due to low production or depth of other aquifers or the lack of reliable surface water. The aquifers have not been identified, and no management plans have been developed. With existing budget and personnel projections, it appeared unlikely that formal aquifer management plans would be written. State and federal laws and regulations concerning water and environmental protection requirements ensure protection of water rights and quality. Adequate and acceptable replacement or compensation for any affected water rights would be provided for in mining and reclamation plans prior to approval by the Wyoming DEQ.

Step 4: Surface Owner Consultation

Section 714 of the Surface Mining and Coal Reclamation Act (SMCRA) requires the BLM to consult with certain qualified owners of split estate lands (private surface ownership over federally owned coal) when surface mining of federal coal is being considered. This step involves only split estate lands within the identified federal coal areas being reviewed.

In the consultation process, qualified surface owners are asked to express their preference for or against surface mining of the federal coal under their private lands. Either an individual or a significant number of these surface owners expressing a preference against surface mining can result in the identification of split estate lands as unavailable for coal development. Such areas can still be considered for possible leasing beyond this land use planning stage, however. This is possible because the actual commitment of surface owner consent or refusal to consent does not occur until later in the coal activity planning process, prior to the offering of a lease for the federal coal involved.

Letters were sent to 42 surface owners of record in the federal coal areas under review. The owners were contacted to determine their preference for or against surface mining of their lands. Thirty responses were received; 19 of those expressed a preference against surface mining on at least a portion of their land. For purposes of the plan, those not responding were assumed to be in favor of surface mining on their lands.

The total preference against surface mining involved approximately 18,000 acres containing 341 million tons of coal. About 10,100 acres containing about 93 million tons of coal occurred in small and scattered tracts of federal coal. These scattered tracts will not be available for further leasing considerations unless surface owners have given their written consent for surface mining and the land use plan is maintained or amended as necessary.

Decision

The remaining 7,900 acres of federal coal lands containing about 248 million tons of federal coal are acceptable pending a determination of availability through further consultation with surface owners. Should coal lease tracts be delineated in this area where surface owners have expressed a preference against surface mining, the owners will again be contacted concerning surface owner qualifications. and preferences regarding surface mining. If it appears the owner is qualified and intends to withhold consent to surface mining, those lands will not be included in a potential lease tract.

Summary of the Coal Screening Process

About 30,597 acres containing about 555 million tons of federal coal are acceptable for development. This area will be given further consideration for new competitive leasing, emergency leasing, lease modifications, and exchange proposals under the federal coal management program. Federal coal acceptable for development is shown on map 6.

PREFERENCE RIGHT LEASE APPLICATIONS

Procedure

The connotation of "preference right" is that any lease issued on PRLAs is noncompetitive; that is, if in the processing of PRLAs it is determined that the federal coal they contain can be economically developed in an environmentally sound manner, either wholly or in part, the areas will be leased to the holders of the preference right lease application.

These rights were established under the former prospecting permit system before the federal coal leasing moratorium went into effect. The Federal Coal Leasing Amendments Act of 1976 abolished noncompetitive (preference right) leasing, subject to valid existing permits and applications. Under the new federal coal management program, the BLM is now required to complete processing of all outstanding PRLAs. PRLAs in the Platte River Resource Area are illustrated on map 6.

Procedures for processing PRLAs are only partially related to the coal screening process; that is, only steps 2 and 3 (application of unsuitability criteria and evaluation of other multiple use conflicts) are applicable. Conducting these procedures for PRLAs may be completed as part of the land use planning process, or it could be conducted as a separate process.

As a matter of efficiency and timing, the BLM elected to conduct the coal unsuitability criteria application for the PRLAs during land use planning. Thus, the land use plan provides a basic resource analysis for use in later PRLA processing requirements. The findings of the unsuitability review do not constitute actual planning decisions at this time.

The potential impact of coal development and the values and concerns identified in the PRLA areas will be addressed later in the preparation of site-specific EAs and a regional PRLA/EIS, which will include evaluation of multiple use conflicts. This will result in the development of necessary stipulations and mitigating requirements to be used in the final adjudication of the applicant's right to a coal lease.

Final adjudication could result in rejection of the application, issuance of a coal lease, or exchange or purchase of the applicant's right in sensitive value areas that should not be mined.

Interrelationships with Other Developments in the Area

The PRLAs in northern Converse County are adjacent to the Thunder Basin National Grassland and the Powder River Coal Region to the north in Campbell County. Intensive coal mining, new leasing, and processing of other PRLAs is occurring throughout this area. These "baseline" projects are listed in appendix F.

Coal development in the Eastern Powder River Basin was addressed in an EIS prepared in 1982. An EIS that addresses proposed coal leasing in the Powder River Basin will be prepared and distributed in 1984.

Development of PRLAs in the Thunder Basin National Grassland was addressed by the Forest Service in two environmental assessments. The EAs are available for review at the Forest Service offices in Douglas and Laramie, Wyoming.

PRLAs in the Platte River Reource Area

There are eleven PRLAs in northern Converse County comprising about 21,000 acres and about 807 million tons of coal. The following is a summary of the findings and related recommendations from applying the coal unsuitability criteria to the PRLAs.

There were no findings for criteria 1, 3, 4, 5, 6, 7, 8, 10, 12, 13, 14, 16, 18, and 20.

Southern Powder River PRLA Group

PRLAs W-21515 and W-21516, held by Dixie Natural Resources, Inc., encompass about 3,076 acres containing about 88 million tons of in-place reserves. The reserves contained in each PRLA amount to about 44 million tons. There were no unsuitability findings for these PRLAs.

Sand Draw PRLA Group

PRLAs W-13800, W-13801, W-14277, W-20057, and W-21119, held by Peabody Coal Co., encompass about 4,573 acres and contain about 52 million tons of in-place reserves. In these PRLAs criterion 2 applies where the Ross Road passes through the N½ of Section 25 and the SE¼ of Section 2, T. 38 N., R. 74 W. Exception (v) was applied.

Criterion 9 applies where a prairie dog town of 280 acres exists. It was found acceptable pending study. Its location is T. 37 N., R. 74 W., Sections 4, 5, 6, 8, and 19.

Criterion 11 applies in a golden eagle nest buffer. Eighty acres was found unsuitable in SE¼SW¼, Section 4, T. 37 N., R. 74 W., and NW¼NE¼, Section 9, T. 37 N., R. 74 W.

Criterion 15 applies in a sage grouse nesting and brooding habitat. A total of 1,200 acres was found unsuitable in Sections 7 and 18, T. 37 N., R. 74 W., and Sections 12 and 13, T. 37 N., R. 75 W.

Criterion 19 applies to a possible alluvial valley floor along the Dry Fork of the Cheyenne River. It is acceptable pending study.

Stevens South PRLA

PRLA W-14355, held by Western Fuels Association, Inc., encompasses about 4,352 acres and contains about 187 million tons of in-place reserves. No areas were found unsuitable in this PRLA.

Stevens North PRLA Group

PRLAs W-12767, W-14390, and W-14392, held by Western Fuels Association, Inc., encompasses about 8,863 acres and contains about 483 million tons of in-place reserves.

Criterion 9 applies on 750 acres of a prairie dog town in T. 37 N., R. 74 W., Sections 4, 5, 6, and 8. It is acceptable for mining pending study.

Criterion 11 applies on 500 acres of golden eagle nest buffers in Sections 29 and 30, T. 38 N., R. 74 W., and NE¼SW¼, Section 4, T. 37 N., R. 74 W. The buffers are unsuitable for mining.

Criterion 15 applies to a sage grouse lek of 400 acres in T. 37 N., R. 74 W., Sections 7 and 18. The lek is unsuitable for mining.

There are 13 existing coal leases in northern Converse County covering about 17,000 acres. Coal tonnage in these existing leases is given in the lease documents, which are available at the Casper District office. Coal leases are shown on map 6.

Table H-2 indicates the tonnage and acreage of federal coal lands in Converse County in existing leases, PRLAs, and lands acceptable for future leasing consideration.

TABLE H-2

COAL IN CONVERSE COUNTY

	Thousands of Acres	Totals	Millions of Tons	Totals
Committed Federal Coal with High to Moderate Potential for Development				
PRLAs	20.8		807.0	
Existing federal coal leases	17.1		356.0	
Total committed coal in Converse County		37.9		1,163
Uncomitted Federal Coal in Converse County				
Federal surface	7.2		112.0	
State surface	0.4		10.0	
Private surface	41.2		712.0	
Total uncommitted	48.8		834.0	
Approximate amount of uncommitted coal available after the screening process is applied		30.6		555
Total available committed and uncommitted federal coal in Converse County (committed coal plus available uncommitted coal)		68.5		1,718

APPENDIX I: SOIL SURVEYS

BLM SOIL SURVEY ORDERS, LEVELS OF INVENTORY INTENSITY, PROCEDURES, APPLICATIONS, PLANNING USES and LEVELS OF INVENTORY by OTHER AGENCIES In CALIFORNIA In RELATION TO MANAGEMENT NEEDS for RESOURCE INFORMATION

ORDER, MINIMUM SIZE DELINEATION (MSD) - MAP SCALE 2/ 6/	BRIEF DESCRIPTION OF SOIL SURVEY PROCEDURES 2/	Inventory Level Map Unit Size, and Map Scale 1/	BRIEF DESCRIPTION OF INVENTORY PROCEDURES 1/	COMPARABLE INVENTORIES MADE in BLM	USE and APPLICATION In RESOURCE MANAGEMENT 3/	KINDS OF PLANNING USES 3/	PLANNING EXAMPLES CALIF. BLM	LEVEL of DETAIL and DOCUMENTS PREPARED by OTHER AGENCIES
1 < 1.0 ac MSD >1:10,000 Map Scale INTENSIVE	Potential Site/Soil Orientation Excellent 5/ The soils in each delineation are identified by transecting or traversing. Soil boundaries are observed through their length. Air photo interpretation used to aid boundary delineation. 50 m. spacing interval 4/	5 0.5 ac. To 5.0 ac. Map Unit Size 1:6000 Map Scale	Data developed utilizing very low altitude photography with intensive ground sampling techniques; Generally used for detailed activity plans and project design.	• Very intensive forest surveys • TPCC Timber Prod. Capability Classification • Riparian habitat inventories • Flood plain inventories • Drainage investigations • Salinity studies • Landslide inventories and investigations • Identification and location of ACEC's • On-Site investigations requiring a Map No formal soil correlation by SCS	• Very intensive forest management • Detailed activity plans • Waste disposal sites • Septic tank absorption drain fields • Recreation site development • Location of drilling pads • Experimental study plots • Site locations for structures • Road and Trail locations • Project design and compliance • Water quality maintenance and improvement • Location of fencing • Location of pipelines • Location of forest plantations	All site — specific intensive land uses • Very detailed activity plans Project Plans • Timber tract Sales • Mining Plans • Recreation Plans • R-PP tracts Recreation + Public Purpose • Reclamation Plans	• CAL Poly ORV Monitoring Study; • 208 Water Quality Management Report	UNIVERSITY OF CALIF. • Experiment stations correlation NATIONAL PARK SERVICE • Portion of Sequoia NP correlation FOREST SERVICE • For Project Design, plantation sites, special studies, road location + design, landslide investigations No correlation USDI BUREAU OF RECLAMATION • Dam site and drainage investigations. No correlation SCS • On-site investigation points No formal soil correlation
2 1.0 To 9.0 ac MSD 1:10,000 To 1:25,000 Map Scale DETAILED	Potential Site/Soil Orientation Good 5/ The soils in each delineation are identified by transecting or by traversing or by observations. Soil boundaries are plotted by observation and air photo interpretation and verified at closely spaced intervals. 100 To 250 m. spacing interval 4/	4 5.0 ac. To 40 ac. Map Unit Size 1:24,000 Map Scale	Data developed utilizing low altitude photography with intensive ground sampling techniques, provides special data requirements for critical management issues.	• Intensive forest inventories • Special extensive forest inventories • Identification of wetlands • Identification of prime farmlands • TPCC Timber Production Capability Classification • Lands inventory • Wi estimate vegetation inventories • Ocular recon vegetation inventory for Mediterranean Annuals • Soil inventory for high resource values SYU's Formal soil correlation by SCS.	• Monitoring of ORV Use Impacts • Monitoring of range condition class • Intensive forest management • Productivity & yield estimates • Determination of allowable soil loss T value • Monitoring of soil movement • Suitability Guide for range seedings • Surface protection • Land exchanges • Rehab of disturbed lands • Information for critical management issues i.e. ORV Management • Soil potential rating	All site — specific ordinary land uses • Detailed activity plans i.e. timber sale plans • Burn plans • Conservation plans • EA's • Irrigation development • Urban Devel. • Energy development • Monitoring Plans • AMP's • HMP's • Watershed Plans	• King Range N.C.A. Watershed Plan; • SYU-15 TMEA; • SYU — 13 TMES • Clear Cr. Sedimentation study	FOREST SERVICE • Selected areas for special use purposes Correlation by SCS prior to publication UNIV. OF CALIF. County Soil Survey Reports Formal correlation by SCS SCS • Private lands of high value statewide by soil survey area Formal correlation • LESA Land Evaluation and Site Assessment (Also at Level 3) USDI — BUREAU OF RECLAMATION • Arable land classification by Proposed Project Area No formal soil correlation by SCS
3 6.2 To 36 ac. MSD 1:25,000 To 1:60,000 SEMI-DETAILED	Potential Site/Soil Orientation Fair 5/ The soils in each delineation are identified by transecting or by traversing or by air photo interpretations and observations. Boundaries are plotted by observation and by air photo interpretations verified by some observations. 500 m. spacing interval 4/	3 40 To 160 ac. Map Unit Size 1:24,000 To 1:100,000 Map Scale	Data developed utilizing medium altitude photography. Ground sampling is required if on site production estimates are part of the desired data base. Provides data for land-use planning.	• Extensive forest inventories i.e. 10 point inventory • Ocular recon forage inventory • Lands inventory • Identification of dominant vegetative overstory and understory canopy both existing and potential expressed by plant names • Soil inventory for medium resource values Formal soil correlation by SCS	• Resource area data • Watershed management • Tax equalization of rangelands • Monitoring of range condition class • Ecosite recognition • Chaparral management • Monitoring of soil movement • Determination of soil potential rating	Multiple Use purpose or a few compatible kinds of site specific land uses • Specialized Land-Use Plans • Chaparral Mgt. Plans • Watershed Mgt. Plans Low value or medium value • RMP's • ES's • Resource plans coordinated	• RMP's • Range ES's • Energy ES's COSO Geothermal Study Area • Bodie/ Coleville Soil Inventory	FOREST SERVICE • All National Forest lands in California — SRI Soil Resource Inv. Formal soil correlation UC DAVIS • LUMP Land Use Mapping Program — Land Capability and land habitability CDF • Soil/vegetation surveys on private forest range and chaparral lands Formal soil correlation by SCS SCS • Soil surveys of private woodland chaparral & rangelands statewide Formal soil correlation by SCS • LESA
4 36 ac. To 399 ac. MSD 1:60,000 To 1:200,000 Map Scale RECONNAISSANCE	Potential Site/Soil Orientation Poor 5/ The soils of delineations representative of each map unit are identified and their proportions and patterns determined by transecting. Subsequent delineations are mapped by observation or by air photo interpretation verified by occasional observations or by traversing. Boundaries are plotted by air photo interpretation. 2.5 Km. spacing interval 4/	2 160 To 1000 ac. Map Unit Size 1:100,000 Map Scale	Data developed utilizing high to medium altitude photography and appropriate ground sampling.	• Lands inventory Extensive • Identification of dominant vegetative overstory canopy both existing and potential expressed by plant name	• District or Resource Area data • Large watershed management.	Broad non site — specific land uses • Broad land-use planning • Low intensity activity planning • General— County Planning • General — State Planning • County Resource Inventory	• King Range N.C.A. Plan ES	SCS • LIM Land Inventory and Monitoring • County Generalized Soil Maps & Reports for the purposes of County General Planning No formal soil correlation by SCS. DOC • Digitized County-wide single purpose soil interpretive maps. No formal soil correlation UC DAVIS • LUMP
5 > 399 ac. To 2500 ac. MSD 1:200,000 To 1:500,000 Map Scale EXPLORATORY OR COMPILED	Potential Site/Soil Orientation Very Poor 5/ The soils, their patterns and their proportions are identified for each map unit either by mapping selected areas (15 to 25 sq. miles) by order 2 survey or by transecting. Subsequent mapping is by air photo interpretation occasionally verified by observations or by observation or by traversing. Boundaries are plotted by air photo interpretation.	1 1000 + ac. Map Unit Size 1:100,000 To 1:250,000 Map Scale	Data developed utilizing LANDSAT imagery supplemented by a minimum of ground sampling if any.	• Literature search using existing inventory data • Vegetation inventories capable of distinguishing evergreen woodlands from deciduous woodlands. • Generalized Soil Maps No formal soil correlation by SCS	• Inventory requirements of the Resource Planning ACT RPA • Regional data needs under FLPMA Federal Land Policy and Management Act	Very Broad nonsite specific Land Uses • General National or Regional Planning • State Water Resources Plan	• C.D.C.A. Plan	UNIV. OF CALIF. • Soil Survey of Sequoia National Park • Storie's General Soil Map of California No formal soil correlation by SCS. DOC • Index to Soil Surveys in California SCS River Basin Planning • Water Land and Related Resources Generalized Soil Map No formal soil correlation

Notes for Soil Survey Orders Chart

1. Inventory Coordination System, BM 1734 Interim Guidance, BLM Washington Office instruction memorandum 81-600, dated 6/24/81, pages 23, 24, and 25; appendix 2, pages 18 and 19; appendix 3, pages 6, 7, 13, and 14.
2. From Western Regional Technical Soil Survey Work Planning Conference (San Diego, California, 1983), Technical Committee 1: "Application of Field Procedures for Different Orders of Soil Surveys." Jerry Harman, BLM, Chairman.
3. These uses are not limted to the BLM.
4. From Dent and Young, 1981, *Soil Survey and Land Evaluation*, p. 90, table 6.1.
5. Likelihood that the named soils will occupy a specific kind of landscape or landscape position and that they can be recognized and located by the user. Source of definition: National Cooperative Soil Survey Technical Work Planning Conference (Washington, D.C., 1983), Technical Committee 4: "Soil Interpretations," Joe Nichols, SCS, Chairman.
6. Minimum size delineation.

Notes for Soil Survey Orders Chart

1. Inventory Coordination System, BM 1734 Interim Guidance, BLM Washington Office instruction memorandum 81-600, dated 6/24/81, pages 23, 24, and 25, appendix 2, pages 18 and 19; appendix 3, pages 6, 7, 13, and 14.
2. From Western Regional Technical Soil Survey Work Planning Conference (San Diego, California, 1983), Technical Committee 1: "Application of Field Procedures for Different Orders of Soil Surveys." Jerry Harman, BLM, Chairman.
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6. Minimum size delineation.

APPENDIX J: BIG GAME DATA

TABLE J-1
BIG GAME POPULATIONS

Species/Herd Name	1990 Post-season Objectives	1983 Post-season Estimates
Mule Deer		
North Natrona	5,000	6,200
South Converse	12,000	11,642
Bates Hole/Hat Six	10,000	11,225
Rattlesnake	5,500	5,429
Ormsby	4,500	5,120
Bill	3,600	3,500
Antelope		
Sage Creek	3,000	6,300
Ormsby	3,600	5,334
La Bonte	1,000	1,975
Bates Hole/Hat Six	6,000	11,782
Rattlesnake	10,000	17,402
North Natrona	5,000	6,200
Lance Creek	18,000	56,000
Bear Creek	10,000	30,000
Elk		
Muddy Mountain	250	239
Rattlesnake	150	150
Upper Nowood/Nowater	900	1,141

NOTE: Information from Wyoming Game and Fish Department.

TABLE J-2
SPECIAL HABITAT TYPES IN HERD UNITS IN NATRONA COUNTY

Habitat	North Natrona Deer and Antelope	Bates Hole/ Hat Six Deer and Antelope	Rattlesnake Mule Deer and Antelope	Upper Powder Mule Deer and Antelope	Badwater Mule Deer and Antelope
Water					
Springs	11	22	13	2	12
Seeps	9	2	6	2	6
Artesian wells	7	0	1	6	0
Stream (miles)	3.0	14.0	11.9	1.2	18.1
Permanent reservoirs	37	2	9	7	5
Seasonal reservoirs	44	5	12	10	4
Riparian Habitat					
Wet meadow	16.6	620	77.5	20.4	36.7
Cottonwood/willow	2.0	91	2.4		10.2
Willow/mixed shrub	2.0	94	1.7		0.4
Cattail wetland			35.0		
Woodland Habitat (acres)					
Ponderosa pine	526	1,302	835	814	0
Ponderosa/limber pine/juniper	1,032	322	344	570	485
Limber pine	358	173	1,310	94	1,521
Ponderosa/limber pine	1,347	0	0	228	24
Juniper	0	7,788	2,670	63	11,618
Curlleaf mountain mahogany	489	0	0	1,823	476
Pine/mountain mahogany	213	0	0	705	2,404
Douglas-fir	0	696	0	0	65
Aspen	0	226	0	0	175
Ponderosa/limber pine/aspen	0	728	0	0	330
Limber pine/aspen/spruce	0	0	0	0	737
Limber pine/mixed conifer	0	0	0	0	126
Juniper/mountain mahogany	700	3,927	0	0	0
True mountain mahogany	0	371	0	0	0

GLOSSARY/ REFERENCES

GLOSSARY

ACRE-FOOT. A term used in measuring the volume of water. An acre-foot is the amount required to cover 1 acre to a depth of 1 foot, or 43,560 cubic feet.

ACTIVITY PLANNING. Site-specific planning that precedes development. This is the most detailed level of BLM planning.

ACTUAL USE. The number of livestock actually grazing on a given allotment.

ALLOTMENT. An area where one or more operators graze their livestock. It generally consists of BLM-managed lands but may include parcels of private or state-owned lands. The number of livestock and period of use are stipulated for each allotment. An allotment may consist of several pastures or may be only one pasture.

ALLOTMENT MANAGEMENT PLAN. A concisely written program of livestock grazing management based on multiple-use resource management objectives and designed to attain specific management goals in a grazing allotment. An AMP considers livestock grazing in relation to other uses of the range and in relation to renewable resources such as watershed, vegetation, and wildlife. It establishes seasons of use, the number of livestock to be permitted, the range improvements needed, and the grazing system.

ALLOWABLE CUT. The amount of timber that may be harvested annually or periodically from a specified area over a stated period, in accordance with the objectives of management.

ANIMAL UNIT. A standardized unit of measurement for range livestock or wildlife. Table 3-48 in the text contains a list of the animal units calculated for various species.

ANIMAL UNIT MONTH. A standardized unit of measurement of the amount of forage necessary for the sustenance of one animal unit for one month; also, a unit of measurement that represents the privilege of grazing on animal unit for one month.

AQUIFER. An underground body of rock, sand, or gravel that is saturated with and conducts groundwater; a water-bearing formation that yields water to wells or springs.

AREA OF CRITICAL ENVIRONMENTAL CONCERN. An area within the public lands designated for special management attention to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards.

BOARD FOOT. A unit of solid wood 1 foot square and 1 inch thick.

BROWSE. The tender shoots, twigs, and leaves of trees and shrubs often used as food by deer, antelope, livestock, and other animals; to feed on browse.

CARRYING CAPACITY. The maximum number of animals that can survive on a given area without damaging vegetation or related resources. Carrying capacity of a given area may vary from year to year because of fluctuating forage production, which is primarily due to differing amounts of precipitation.

CLIMAX PLANT COMMUNITY. The final vegetative community that emerges after a series of successive vegetational stages, representing the highest ecological development of a plant community capable of perpetuation under the prevailing climate and soil conditions.

COMMERCIAL FORESTLAND. Forestland that is now producing or is capable of producing at least 20 cubic feet per acre per year of commercial coniferous tree species.

COMMERCIAL THINNING. Removal of merchantable surplus trees.

COVER. Vegetation or terrain used by wildlife for protection from predators and adverse weather conditions. Cover is a major component of wildlife habitat.

CRITICAL WILDLIFE HABITAT. The portion of the living area of a wildlife species that is essential to the survival and perpetuation of the species either as individuals or as a population.

CULTURAL RESOURCES. Fragile and nonrenewable remains of human activity, occupation, or endeavor that are reflected in districts, sites, structures, buildings, objects, artifacts, ruins, works of art, architecture, or natural features.

CULTURAL RESOURCE INVENTORY CLASSES. A **Class I** inventory of a defined area provides a narrative overview derived from existing information and a compilation of existing data on which to base the development of the BLM's site record system. A **Class II** inventory is a sample-oriented field inventory designed to locate and record, from surface and exposed profile indications, all cultural resource sites within a portion of a defined area to make possible an objective estimate of the nature and distribution of cultural resources in the entire defined area. A **Class III** inventory is an intensive field inventory designed to locate and record all cultural resource sites within a specified area. Upon completion of such an inventory, no further cultural resource inventory work is normally needed in that area.

CULTURAL RESOURCE MANAGEMENT PLAN. A plan designed to inventory, evaluate, protect, preserve, or make beneficial use of cultural resources and the natural resources that figured significantly in cultural systems. The objectives of such plans are the conservation, preservation, and protection of cultural values and the scientific study of the resources.

DECIBELS. The most commonly used measure of sound, the decibel (dB) is a logarithmic function; that is, decibels are not directly additive. A small change in decibels would be a major change in noise intensity. For example, a sound level of 64 dB is twice as intense as a level of 60 dB. The "A" scale of weighing decibels most closely approximates human hearing; therefore, decibels on the "A" scaled B(A) are used to indicate sound levels. The distance from the sound source is a major determinant in the perception of sounds. Noise drops off 6 dB(A) for every doubling of distance from the source.

DEPENDENCY. The amount of an operation's forage that is provided by public lands, expressed as a percentage of a herd's total forage requirements for one year. The forage requirement is based on the operation's total herd.

DIRECT SALE. A sale of fair market value to a designated purchaser without competitive bidding.

DISPOSAL. Transfer of ownership of a tract of public land from the United States to another party through sale, exchange, or transfer under the Recreation and Public Purposes Act.

ECOSYSTEM. A biological community together with its nonliving environment, forming an interacting system inhabiting an identifiable space.

ENDANGERED SPECIES. Any plant or animal species that is in danger of extinction throughout all or a significant portion of its range, as defined by the U.S. Fish and Wildlife Service under the authority of the Endangered Species Act of 1973.

ENVIRONMENTAL ASSESSMENT. A record of the environmental factors involved in a land management action.

ENVIRONMENTAL IMPACT STATEMENT. A written analysis of the impacts of a proposed project and alternatives.

EPHEMERAL STREAM. A stream that flows for only a short time each year in direct response to precipitation events.

FORAGE. All browse and herbaceous foods available to grazing animals.

FORAGE UTILIZATION. The proportion of vegetation or foliage removed from a plant by grazing or browsing animals. Usually expressed as a percentage of the plant's total annual weight.

FOREST DEVELOPMENT. A program of silvicultural treatment to perpetuate and improve production of wood and related values. It includes such treatments as site preparation, seeding, planting, and protective measures.

FORESTLAND. Land that is now, or is capable of becoming, at least 10% stocked with forest trees, which has been developed for nontimber use.

(FORESTRY) STAGE II INVENTORY. An intensive inventory of site-specific forest stands.

FULL SUPPRESSION. The aggressive and complete suppression of all wildfires, regardless of cause, according to BLM fire management policy.

GRAZING DECISION. A decision reached through planning and consultation. Grazing decisions may include adjustments in livestock grazing, development of management plans, and implementation of range improvement projects as needed to meet multiple-use management objectives.

GRAZING PERMIT. A document authorizing the grazing of a specified number and kind of livestock on a designated area of BLM-managed public land for a specified period.

GRAZING SYSTEM. A systematic sequence of grazing use and nonuse of an allotment to reach identified multiple use goals or objectives.

HABITAT. The natural environment of a plant or animal.

HABITAT MANAGEMENT PLAN. An approved activity plan for a geographical area of public land. The plan identifies wildlife habitat management actions to be implemented to achieve specific objectives related to planning document decisions.

INTENSIVE MANAGEMENT (grazing). Management using range improvements and scientific techniques, including grazing systems, to maximize sustained yields of animals and forage production.

INTENSIVE TIMBER MANAGEMENT. The practice of converting an unregulated forest into a maintained and managed forest that will approach the desired or optimum level of growing stock as rapidly as possible. This is achieved by such practices as precommercial and commercial thinning, large-scale site preparation, planting, brush and hardwood control, fertilization, and forest genetic improvements.

KEY SPECIES. Generally two to four of the most important forage plants in a a range area. They usually furnish a good portion of the bulk of the forage on that range area, and their being used to capacity indicates that the entire range area is being used correctly.

KNOWN GEOLOGIC STRUCTURE. An area known to contain producible oil and gas deposits.

LAND TREATMENT. All methods of artificial range improvement and soil stabilization, including reseeding, chemical and mechanical brush control, pitting, furrowing, and water spreading.

LEASABLE MINERALS. Minerals subject to lease by the federal government. The major leasable minerals in the PRRA are oil and gas and coal.

LIMITED SUPPRESSION. A deviation from normal fire suppression procedures based on a land use decision or practiced where controlling fires is extremely difficult or dangerous, or where the values at risk do not warrant the expense associated with normal suppression. Limited suppression is *not* a let-burn policy. All fire starts and reports receive some action. In limited suppression areas the action may be monitoring fires under prescribed meteorological conditions in areas of sparse vegetation, low historical fire occurrence, or low resource value; extended initial attack times; deployment of fewer personnel or less equipment; or restrictions on certain firefighting equipment. All fires that threaten human life, structures, range improvements, or livestock are immediately suppressed, as are those burning outside prescribed weather factors. The goals in limited suppression are to provide fire protection commensurate with the values of the resources and to provide for the safety of fire personnel.

LIVESTOCK OPERATION. The management of a ranch or farm so that a significant portion of the income is derived from the continuing production of livestock.

LOCATABLE MINERALS. Generally the metallic minerals subject to development specified in the Federal Mining Law of 1872.

MANAGEMENT FRAMEWORK PLAN. A BLM planning decision document that establishes, for a given planning area, land use allocations, coordination guidelines for multiple use, and management objectives to be achieved for each class of land use or protection. This type of land use plan is being replaced by the resource management plan.

MITIGATION. A method or process by which impacts from actions may become less injurious to the environment.

MONITORING. Specific studies that evaluate the effectiveness of actions taken toward achieving management objectives.

MULTIPLE USE. Coordinated management of various surface and subsurface resources that will best meet present and future needs.

NATIONAL REGISTER OF HISTORIC PLACES. The official list, established by the Historic Preservation Act of 1966, of the nation's cultural resources worthy of preservation.

NONCOMMERCIAL FORESTLAND. Land that is not capable of yielding at least 20 cubic feet of wood per acre per year of commercial species; also, land that is capable of producing only noncommercial tree species.

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NORMAL FIRE YEAR PLAN. A planning process that sets limits on personnel, aircraft, ground tankers, and warehouse levels for fire suppression, as well as the funding level for presuppression during the activation period, generally May 1 to September 30.

OFF-ROAD VEHICLE. Any motorized tracked or wheeled vehicle designed for cross-country travel over any type of natural terrain.

OFF-ROAD VEHICLE DESIGNATIONSBLM designations for ORV operation are as follows:

Open areas are designated areas and trails where ORVs may be operated subject to operating regulations and vehicle standards set forth in the *BLM Manual*, sections 8341 and 8343.

Limited areas are designated areas and trails where the use of ORVs is subject to restrictions such as limits on the number or types of vehicles allowed, dates and times of use, limit of use to existing roads and trails, or limits of use to designated roads and trails. When ORVs are limited to designated roads and trails, use is allowed only on roads and trails that are signed for use. Combinations of restrictions are possible.

Closed areas are designated areas and trails where the use of ORVs is permanently or temporarily prohibited. Emergency use of vehicles is allowed.

PERENNIAL STREAM. A stream that flows throughout the year.

PERMITTEE. Holder of a license or permit for grazing of livestock on public land.

PETROGLYPH. A figure, design, or indentation carved, abraded, or pecked on a rock.

PRECOMMERCIAL THINNING. Removal of surplus trees in a stand before they reach merchantable size.

PREFERENCE. Grazing privileges established following the passage of the Taylor Grazing Act, based on the use of the federal range during the priority period. The active preference and suspended preference together make up the total grazing preference.

PREFERENCE RIGHT LEASE APPLICATION. An application for a noncompetitive coal lease. Under the Mineral Leasing Act of 1920, the Secretary of the Interior was authorized to issue exploration permits for land where the existence or workability of coal resources was unknown. A permittee who could demonstrate, during the term of the permit, the existence of commercial quantities of coal was entitled to a "preference right lease"; that is, a noncompetitive lease. Provisions for prospecting permits were repealed in 1976, but current federal coal regulations 943 CFR 3430) provide for processing of pending PRLAs.

PRESCRIBED FIRE. The skillful application of fire to a specified area under specific weather conditions (a prescription) to achieve predetermined resource management objectives; the use of fire as a resource management tool.

PUBLIC LAND. Surface or mineral estate administered by the Bureau of Land Management.

RANGE CONDITION. The present state of the vegetation of a range site in relation to the climax plant community for that site. Range condition is expressed as excellent, good, fair, or poor. Also called ecological range condition.

RANGE IMPROVEMENT. Any activity or program on or relating to rangelands designed to improve production of forage, change vegetation composition, control patterns of use, provide water, stabilize soil and water conditions, or provide habitat for livestock, wild and free-roaming horses and burros, or wildlife. **Range improvement projects** may be fences, reservoirs, brush control, or spring and well developments.

RANGE SITE. A distinctive kind of rangeland that differs from other kinds of rangeland in its ability to produce a characteristic natural plant community.

RANGE TREND. The change in vegetation and soil characteristics resulting from environmental factors, primarily climate and grazing. Studies of range trend are used in combination with other studies to evaluate grazing systems.

RECREATION MANAGEMENT AREA. A subunit of a resource area that constitutes a basic land unit of recreation management. Each area is identified and managed as a unit on the basis of similar or interdependent recreation values; homogeneous or interrelated recreation uses, land tenure, and use patterns; or administrative efficiency. There are two types of recreation management areas, extensive and special.

Extensive recreation management areas are areas where dispersed recreation is encouraged and where visitors have a freedom of recreational choice with minimal regulatory constraint. Significant recreation issues or management concerns are limited, and minimal management suffices. Detailed planning is not usually required.

Special recreation management areas are areas where congressionally recognized recreation values exist or where significant public recreation issues or management concerns occur. Special or more intensive types of management are typically needed, detailed recreation planning is required, and more facilities and supervision are likely.

RECREATION AND PUBLIC PURPOSES. R&PP refers to both the Recreation and Public Purposes Act [(43 USC 869(a)] and the uses to be made of public land transferred under the act. The objective of the R&PP Act is to meet the needs of state and local government agencies and nonprofit organizations by leasing or conveying public land required for recration and public purpose uses. Examples of uses made of R&PP lands are parks and greenbelts, sanitary landfills, schools, religious facilities, and camps for youth groups. The act provides substantial cost benefits for land acquisition, and provides for recreation facilities or historical monuments at no cost.

REGENERATION. The renewal of a tree crop by natural or artificial means. Also, the young crop itself.

RESOURCE MANAGEMENT UNIT. A specific geographic unit within the resource area that may contain a variety of land uses or specific land uses that make the area unique in terms of management. The RMU may contain both public and private land, but BLM management decisions would apply only to the public land within the unit. RMUs in the PRRA were established at step 4 of the planning process, as described in chapter 1.

REST. A grazing treatment under which no livestock are allowed to graze on a given area for a particular portion of the growing season, so that plants are allowed to replenish their food reserves. Used in this document refer to yearlong relief from livestock grazing.

RIPARIAN. Situated on or pertaining to the bank of a river, stream, or other body of water. Normally used to refer to plants of all types that grow rooted in the water table of streams, ponds, and springs.

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SCARIFICATION. Disturbance of the upper soil layer by mechanical means in preparation of a site for seeding.

SCOPING. A process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. The process involves participation of affected federal, state, and local agencies, affected Indian tribes, and other interested persons, as well as the general public. As part of the scoping process, one or more public meetings are held early in the process of document preparation.

SEASON OF USE. The time during which livestock grazing is permitted on a given range area, as specified in the grazing lease.

SILVICULTURE. The establishment, development, reproduction, and care of forest trees.

SOIL COMPACTION. Increasing the bulk density of soil through the compression of large voids. Reduction of the air spaces in soil can result in overland flow of water and in surface erosion. It also can significantly reduce plant vigor in the root zone.

SOIL SURVEYS. The five orders of soil surveys are described in appendix I. Order III soil surveys are being done on most of the western rangelands because this type of survey generally provides the level of detail required for rangeland interpretations.

STOCKING RATE. The number of animals on a specified area at a given time. Usually expressed in acres per AUM.

SPLIT ESTATE. Surface and minerals of a given area in different ownerships. Frequently the surface will be privately owned and the minerals federally owned.

STRUTTING GROUND. An area used by sage grouse in early spring for elaborate, ritualized courtship displays.

SUSTAINED YIELD. The achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use. It applies to the management of all renewable resources including forage, wildlife, water, recreation, and any value that can be managed for renewal and sustained productivity.

THREATENED SPECIES. Any plant or animal species that is likely to become an endangered species throughout all or a significant portion of its range, as defined by the U.S. Fish and Wildlife Service under the authority of the Endangered Species Act of 1973.

TIMBER MANAGEMENT PLAN. A detailed activity plan designed to implement long-range forest management goals in a specific area. Such plans include timber harvest, preliminary road reconnaissance, and forest development practices.

TIMBER PRODUCTION BASE. Acreage included in the calculation of the allowable cut.

UNSUITABLE RANGE. An area not suited for livestock grazing because it is barren, lacks forage or water, has unstable soils, or contains physical barriers such as rugged topography, rock, or dense timber. Such an area may still have value for wildlife.

VEGETATION TYPE. A plant community with visually distinguishable characteristics, named for the apparent dominant species.

VISUAL RESOURCES. The land, water, vegetation, animals, and other features that make up the scenery of an area.

VISUAL RESOURCE MANAGEMENT. The planning, design, and implementation of management objectives for maintaining scenic values and visual quality. The system is based on research that has produced ways of assessing aesthetic qualities of the landscape in objective terms. After inventory and evaluation, lands are given relative visual ratings (management classes), which determine the amount of modification allowed to the basic elements of the landscape. There are five classes.

Class I: Very limited management activity is allowed. Created contrasts must not attract attention. This classification applies to wilderness areas, wild and scenic rivers, etc.

Class II: Changes in any of the basic elements caused by management activity should not be evident in the characteristic landscape. Contrasts are seen but must not attract attention.

Class III: Contrasts to the basic elements caused by a management activity are evident but should remain subordinate to the existing landscape.

Class IV: Any contrast attracts attention and is a dominant feature of the landscape in terms of scale, but it should repeat the form, line, color, and texture of the characteristic landscape.

Class V: The Class V classification is applied to areas where the natural character of the landscape has been disturbed to a point where rehabilitation is needed to bring it up to one of the four other classifications. The classification also applies to areas where there is potential to increase the landscape's visual quality. It is often used as an interim classification until objectives of another class can be reached.

Scenic quality classes are defined by a system that rates seven key factors: landform, vegetation, water, color, influence of adjacent scenery, scarcity, and cultural modification. There are three scenic quality classes.

Class A areas are those that combine the most outstanding characteristics of each rating factor.

Class B areas are areas in which there is a combination of some outstanding features and some which are fairly common to the physiographic region.

Class C areas are those in which the features are fairly common to the physiographic region.

WETLANDS. Permanently wet or intermittently flooded areas where the water table (fresh, saline, or brackish) is at, near, or above the soil surface for extended intervals, where hydric wet soil conditions are normally exhibited, and where water depths generally do not exceed two meters.

WITHDRAWAL. An action that restricts the use of described public lands from operation of certain laws, which are also described in the withdrawal order. Withdrawal also may be used to transfer jurisdiction or management to other federal agencies.

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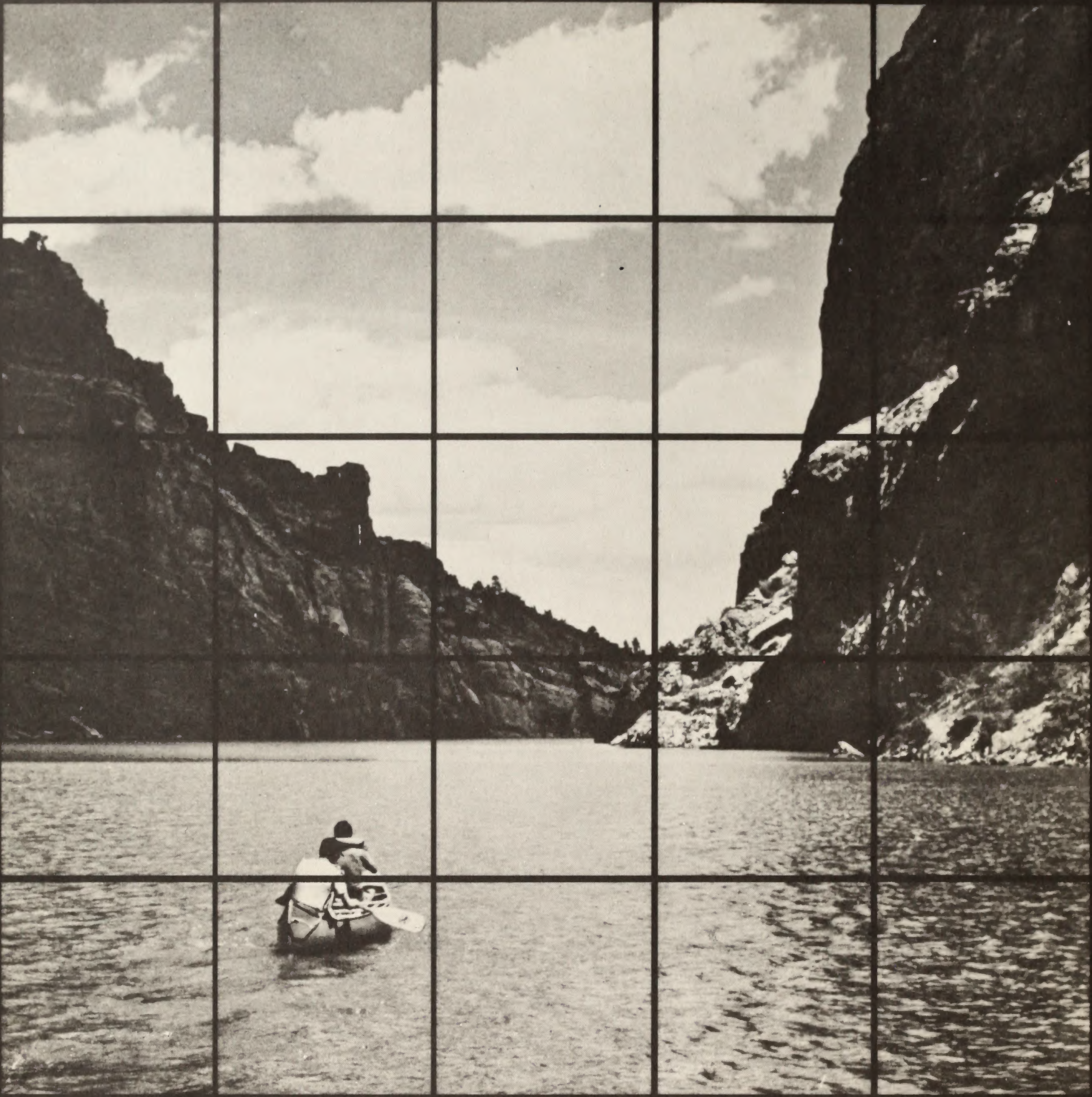

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